



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

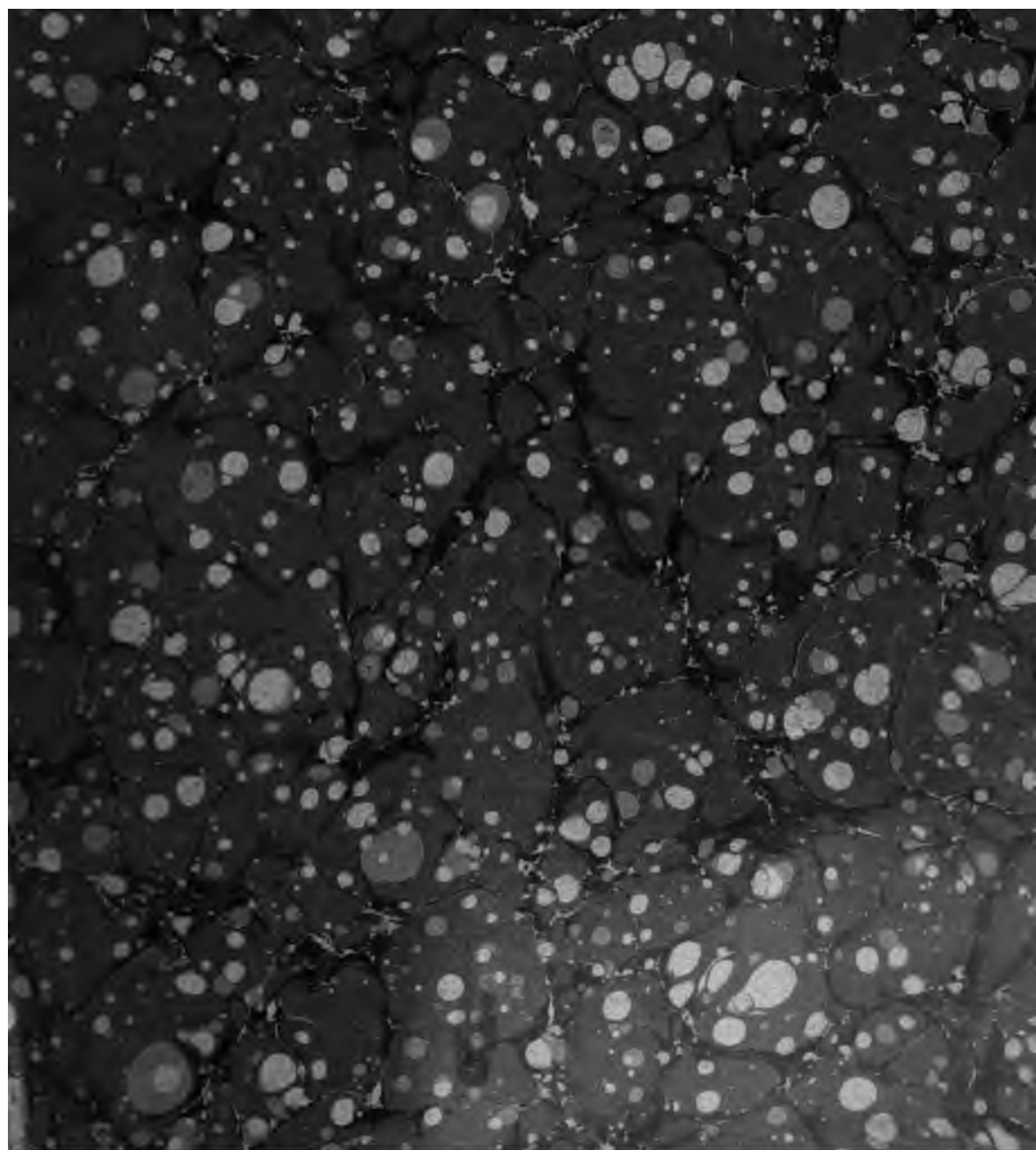
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



SCHOOL OF EDUCATION
LIBRARY





The Elementary School Teacher AND *Course of Study*

(Formerly Published by the Chicago Institute)

EDITED BY
The University of Chicago
School of Education




JULY, 1902

Chicago: The University of Chicago Press
Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1902, BY THE UNIVERSITY OF CHICAGO  
Entered at the post office at Chicago, Illinois, as second class matter, January 10, 1902.

# A maiden's wishes



-are but three,  
O'er all the world, whoe'er she be—  
To handsome grow.  
And have a beau,  
And to the bridal altar go—  
All these fruitions of her hope

Come quickly, if she'll

**USE PEARS' SOAP**

THE  
ELEMENTARY SCHOOL TEACHER

---

VOLUME III

---

JULY, 1902 — JUNE, 1903

LIBRARY  
UNIVERSITY OF CHICAGO  
LIBRARY

CHICAGO  
The University of Chicago Press

1903  
S. C. C. C.



PRINTED AT  
The University of Chicago Press  
CHICAGO

YHABRL  
XOBUL OBOBATE OBALE  
YTHABVIM

# The Elementary School Teacher and Course of Study

(FORMERLY PUBLISHED BY THE CHICAGO INSTITUTE)

EDITED BY THE UNIVERSITY OF CHICAGO SCHOOL OF EDUCATION

## CONTENTS FOR JULY, 1902

### SYLLABI OF COURSES IN THE SCHOOL OF EDUCATION, SUMMER QUARTER.

|                                                                                                                               |    |                                                                                                    |    |
|-------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------|----|
| APPLIED PEDAGOGY. <i>Flora J. Cooke,</i><br><i>Katharine M. Stilwell, Gertrude Van</i><br><i>Hoesen</i> . . . . .             | I  | CHALK-MODELING. <i>Ida Cassa Heffron</i> . . . . .                                                 | 40 |
| PEDAGOGY OF THE KINDERGARTEN.<br><i>Bertha Payne</i> . . . . .                                                                | 5  | TEXTILES. <i>Clara Isabel Mitchell</i> . . . . .                                                   | 43 |
| NATURAL SCIENCE . . . . .                                                                                                     | 9  | WOODWORK . . . . .                                                                                 | 45 |
| NATURE STUDY. <i>Wilber S. Jackman</i> . . . . .                                                                              | 9  | COURSES VI AND VII. <i>Annette Butler, Eliza-</i><br><i>beth Euphrosyne Langley</i> . . . . .      | 45 |
| ELEMENTARY FIELD WORK. <i>Ira B. Meyers</i> . . . . .                                                                         | 11 | MUSIC. <i>Eleanor Smith</i> . . . . .                                                              | 47 |
| BEACH-POND-PRAIRIE AREA. <i>Ira B. Meyers</i> . . . . .                                                                       | 14 | PHYSICAL TRAINING. <i>Carl J. Kroh</i> . . . . .                                                   | 47 |
| HISTORY . . . . .                                                                                                             | 16 | COURSES X AND XI. Theory and Practice<br>of School Gymnastics . . . . .                            | 47 |
| COURSE I. History in the Elementary School.<br><i>Emily J. Rice</i> . . . . .                                                 | 16 | COURSE XII. General and Applied Gym-<br>nastics—Advanced Course . . . . .                          | 49 |
| COURSE II. History for the Primary Grades.<br><i>Emily J. Rice</i> . . . . .                                                  | 19 | FUNDAMENTAL GYMNASICS . . . . .                                                                    | 50 |
| QUESTIONS FOR DISCUSSION IN COURSES III<br>AND IV . . . . .                                                                   | 21 | MODEL SCHOOL COURSE . . . . .                                                                      | 51 |
| COURSE III. American History in the Ele-<br>mentary Schools. <i>Viola Deratt</i> . . . . .                                    | 22 | SPECIAL . . . . .                                                                                  | 51 |
| COURSE IV. History in the Primary Grades.<br><i>Viola Deratt</i> . . . . .                                                    | 24 | REFERENCES . . . . .                                                                               | 52 |
| GEOGRAPHY. <i>Zonia Baber</i> . . . . .                                                                                       | 24 | FRENCH. <i>Lorley A. Ashleman</i> . . . . .                                                        | 53 |
| MATHEMATICS . . . . .                                                                                                         | 30 | COURSES I AND II. The Pedagogy of Teach-<br>ing French . . . . .                                   | 53 |
| COURSE I. Applied Arithmetic. <i>Gertrude</i><br><i>Van Hoesen</i> . . . . .                                                  | 30 | A COURSE OF STUDY IN FRENCH FOR THE<br>GRADES . . . . .                                            | 54 |
| COURSE II. The Interrelation of Subjects in<br>Elementary Mathematics. <i>Herbert Ells-</i><br><i>worth Slaught</i> . . . . . | 31 | MODEL SCHOOL . . . . .                                                                             | 57 |
| SPEECH, ORAL READING, AND DRA-<br>MATIC ART. <i>Martha Fleming</i> . . . . .                                                  | 32 | THE KINDERGARTEN. <i>Bertha Payne, Mary</i><br><i>Howell</i> . . . . .                             | 57 |
| ART . . . . .                                                                                                                 | 37 | FIRST GRADE . . . . .                                                                              | 59 |
| ART IN RELATION TO HISTORY AND LIT-<br>ERATURE. <i>John Duncan</i> . . . . .                                                  | 37 | Gardening. <i>Flora J. Cooke</i> . . . . .                                                         | 59 |
| PAINTING AS A MEANS OF IMAGING. <i>John</i><br><i>Duncan, Antoinette B. Hollister</i> . . . . .                               | 38 | Preparation for the Social Period. <i>Elsie</i><br><i>Amy Wygant</i> . . . . .                     | 60 |
| CLAY-MODELING. <i>Antoinette B. Hollister</i> . . . . .                                                                       | 39 | French Games. <i>Lorley A. Ashleman</i> . . . . .                                                  | 61 |
|                                                                                                                               |    | FOURTH GRADE . . . . .                                                                             | 63 |
|                                                                                                                               |    | The Relation of the Farm to the Food Sup-<br>ply of the City. <i>Gertrude Van Hoesen</i> . . . . . | 63 |
|                                                                                                                               |    | Transportation. <i>Elsie A. Wygant</i> . . . . .                                                   | 64 |
|                                                                                                                               |    | French. <i>Lorley A. Ashleman</i> . . . . .                                                        | 65 |
|                                                                                                                               |    | EIGHTH GRADE. <i>Katharine M. Stilwell,</i><br><i>Jennie Hall</i> . . . . .                        | 69 |
|                                                                                                                               |    | Cuba . . . . .                                                                                     | 69 |

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

THE UNIVERSITY OF CHICAGO PRESS,

CHICAGO, ILLINOIS

APPLICATION MADE FOR ENTRY AS SECOND-CLASS MAIL MATTER.  
COPYRIGHTED, 1902, BY THE UNIVERSITY OF CHICAGO.

77940

C

# THE UNIVERSITY OF CHICAGO PRESS

## Contributions to Education

By **JOHN DEWEY**, Professor and Head of Department of Philosophy in the University of Chicago, and **ELLA FLAGG YOUNG**, Professor of Education in the University of Chicago

**T**HE series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy

### No. 1. ISOLATION IN THE SCHOOL - BY ELLA FLAGG YOUNG

This contribution discusses the vexed question of school organization in the light of recent psychological and ethical thought, treating the school as an institution among other institutions. It shows the necessity of coöperation and inter-action among the various parts that make it up, more specifically the teaching and supervising factors. It is anticipated that the book will give a point of departure for future discussions.

12mo, paper, net, 50 cents - - - - - postpaid, 55 cents

### No. 2. PSYCHOLOGY AND SOCIAL PRACTICE - BY JOHN DEWEY

This contribution shows why psychology is necessary to the teacher in doing his work in social and moral directions. In distinction from those who oppose the psychological and the social ideals of education to each other, it is shown how necessary they are to each other.

12mo, paper, net, 25 cents - - - - - postpaid, 28 cents

### No. 3. THE EDUCATIONAL SITUATION - BY JOHN DEWEY

This contribution reviews the entire educational situation, taking up first, the Elementary School; second, the High School; and third, the College, showing how conditions due to their origin and past history conflict with present demands and responsibilities and the nature of the readjustment thus made necessary.

12mo, paper, net, 50 cents - - - - - postpaid, 55 cents

### No. 4. ETHICS IN THE SCHOOL - BY ELLA FLAGG YOUNG

This contribution sets forth some of the working conditions especially as to the relation of teacher and pupil, necessary to enable the school to perform its proper function—the formation of character.

12mo, paper, net, 25 cents - - - - - postpaid, 28 cents

### No. 5. PSYCHOLOGICAL ASPECTS OF THE SCHOOL CURRICULUM - BY JOHN DEWEY

This contribution shows that the value of psychology is not limited to the matter of methods of teaching, but affects the subject as a whole.

12mo, paper, net, 25 cents - - - - - postpaid, 28 cents

### No. 6. TYPES OF MODERN EDUCATIONAL THEORY - BY ELLA FLAGG YOUNG

This contribution does for the various modes of educational reform already in vogue what is done in the third number of the series for the educational situation as a whole. The various types of school standpoint and method are set forth and compared with reference to the fundamental psychological and ethical principles.

12mo, paper, net, 25 cents - - - - - postpaid, 28 cents

Six numbers. 12mo, paper Price for series on one order to  
same address, net, \$1.50 - postpaid, \$1.75

For sale by dealers or **The University of Chicago Press, Chicago, Illinois**

REMINISCENCES OF EX-GOV. BOUTWELL

## Sixty Years in Public Affairs

No man has been more intimately connected with the great political events of the last half century than George S. Boutwell. In his book, with its rich fund of incident and anecdote, we have history told on the personal side.

*2 vols. boxed.*

*Net, \$5.00; postpaid, \$5.26.*

## Asiatic Russia

*By Prof. George Frederick Wright*

In his travels through the little known parts of Siberia this trained observer and scientist collected much of great scientific and political value. The book is profusely illustrated with unique photographs.

*Net, \$7.50; postpaid, \$7.76.*

### **Myra of the Pines**

*A Novel of Today*

*By Herman K. Vielt*

The author of "The Last of the Knickerbockers" and "The Inn of the Silver Moon" has written a new and charming romance of modern life.

*\$1.50.*

### **A Prince of Good Fellows**

*By Robert Barr*

Adventures grave and gay of James V. of Scotland, who had a sprightly habit of wandering about his realm incognito. Illustrated by E. J. Sullivan.

*\$1.50.*

### **Forest Neighbors**

*By W. D. Hulbert*

Biographies of the shyest creatures of wood and stream, written with the intimate personal touch of a man who has been a friend instead of a hunter of them. Handsomely illustrated.

*Net, \$1.50; postpaid, \$1.66.*

### **Next to the Ground**

*Chronicles of a Countryside*

*By Martha McCulloch-Williams*

A genuine nature book telling of the life of woodland and farm with wonderful insight and captivating charm.

*Net, \$1.20; postpaid, \$1.32.*

**McClure, Phillips & Co.** 141 East 25th Street  
NEW YORK CITY



# ONE CENT <sup>A</sup> WEEK

**PUBLIC**

**OPINION**

## For Ten Weeks' Subscription

**PUBLIC OPINION** is now an indispensable 32-page weekly magazine, comprising in its 52 issues a grand total of over 1700 pages of reading matter, and over 1000 illustrations, including reproductions of the cleverest current cartoons. Its readers, independent of other periodicals, are fully abreast of the times, sufficiently well posted to discuss with intelligence all sides of every question of the hour, whether political, social, religious, educational, scientific, financial, literary, or artistic.

**PUBLIC OPINION'S** field is as wide as the range of human interests. It is read by more representative people than any other weekly magazine. In addition to its own editors, its staff comprises the editors of the 3000 dailies, weeklies, and monthlies required to produce one weekly issue of **PUBLIC OPINION**.     ●     ●     ●     ●     ●

**THIS SPECIAL INTRODUCTORY OFFER** gives you ten numbers, about 350 pages (regular price, \$1.00), for the price of one issue (ten cents)—the cost of postage. Send at once your name, address, and ten cents (coin or stamps) to **PUBLIC OPINION, 16 UNIVERSITY PLACE, NEW YORK CITY.**

*SOME IMPORTANT*

## BOOKS ON EDUCATION

**The School and Society.** By JOHN DEWEY. (Third edition.) Supplemented by a statement of the Laboratory School of the University of Chicago. 130 pp., 12mo, cloth. \$1.00.

**The Prospects of the Small College.** By PRESIDENT WILLIAM R. HARPER. 50 pp., 12mo, paper. *Net*, \$0.25.

**Report of the Educational Commission of the City of Chicago.** The commission was appointed by HON. CARTER H. HARRISON, January 19, 1898, and the report is edited by PRESIDENT WILLIAM R. HARPER. (Second edition.) 250 pp., royal 8vo, paper. *Net*, \$1.00.

**The Education of Business-Men.** A View of the Organization and Courses of Study in Commercial High Schools of Europe. By EDMUND J. JAMES. 232 pp., 8vo, paper. *Net*, \$0.50.

**The Philosophy of the Humanities.** By THOMAS FITZ-HUGH. 63 pp., royal 8vo, paper. *Net*, \$0.50.

**FOR SALE BY BOOKDEALERS OR BY THE PUBLISHERS  
THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois**

## For Use in Secondary Schools

### History

|                                                 |        |
|-------------------------------------------------|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England              | 1.25   |
| Botsford—History of Greece                      | 1.10   |
| Botsford—History of Rome                        | 1.10   |
| Adams—Medieval and Modern History               | 1.10   |
| Adams—Growth of French Nation                   | 1.25   |
| Adams—European History                          | 1.40   |

### Science

|                                       |      |
|---------------------------------------|------|
| Bailey—Elementary Botany              | 1.10 |
| Davenport—Introduction to Zoology     | 1.10 |
| Crew—Elements of Physics              | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography    | 1.40 |
| Tarr—Elementary Geology               | 1.40 |

### Mathematics

|                                             |      |
|---------------------------------------------|------|
| Fisher & Schwatt—Secondary Algebra          | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond      | .90  |
| Holgate—Elementary Geometry                 | 1.10 |

### English

|                                                               |      |
|---------------------------------------------------------------|------|
| Carpenter—Rhetoric, First High-School Course                  | .60  |
| Carpenter—Rhetoric, Second High-School Course                 | .50  |
| Lewis—Introduction to the Study of Literature                 | 1.00 |
| Carpenter—Principles of English Grammar                       | .75  |
| Pocket English and American Classics (34 volumes ready), each | .25  |

## The Macmillan Company

378-388 WABASH AVE., CHICAGO  
New York Boston Atlanta San Francisco

## A New Series

### The Canterbury Classics

A new series of supplementary readers for all grades. Edited under the general supervision of KATHARINE LEE BATES, Professor of English Literature in Wellesley College.



JUST

ISSUED

**Rab and His Friends, and Other Dog Stories.** By Dr. John Brown. Edited by Charles W. French, Principal of the Hyde Park High School, Chicago. Illustrated with a portrait of Dr. Brown, 6 full page and 21 text drawings by Angus MacDonall, and 9 reproductions of original sketches by the Author. Cloth, 150 pages; 25 cents.

**The Gold Bug.** By Edgar Allan Poe. Edited by Theda Gildemeister, Training Teacher in the State Normal School, Winona, Minn. Illustrated with the Zolnay bust of Poe as frontispiece, a map, and 6 full page drawings by G. C. Widney. Cloth, 111 pages; 25 cents.

Over twenty others in this series are in preparation.  
May we send you a list?

### Rand, McNally & Company

Educational Publishers  
Chicago New York London

## AN INDISPENSABLE BOOK FOR STUDENTS OF BOTANY

## METHODS IN PLANT HISTOLOGY

BY  
CHARLES J. CHAMBERLAIN, A.M., Ph.D.  
Instructor in Botany in the University of Chicago

**T**HIS BOOK contains directions for collecting and preparing plant material for microscopic investigation. It is based upon a course in botanical micro-technique, and is the first complete manual to be published on this subject. It is the result of several years' work with classes in residence at the University of Chicago and with University Extension classes away from the University. It aims, therefore, to meet the requirements, not only of the student who has the assistance of an instructor in a fully equipped laboratory, but also of the student who must work by himself and with limited apparatus. Free-hand sectioning, the paraffin method, the celloidin method, and the glycerin method are treated in considerable detail. In later chapters specific directions are given for making such preparations as are needed by those who wish to study the plant kingdom from the algae up to the flowering plants. Special attention is paid to the staining of karyokinetic figures, because the student who masters this problem will find little difficulty in differentiating other structures. Formulas are given for the reagents commonly used in the histological laboratory.

160 pp., 8vo, illustrated, cloth, (net) \$1.50

For Sale by Dealers or by the Publishers

The University of Chicago Press  
CHICAGO, ILL.

## The University of Chicago Press

Special printing facilities for academic work, including theses and reports of educational bodies and learned societies.

Educational and scientific works printed in English, German, French, Latin, Greek, Hebrew, and other languages.

Estimates furnished

The University of Chicago Press  
58TH ST. AND ELLIS AVE., CHICAGO

## We buy school-books

And we send free to any applicant our "Books Wanted" Catalogue of over 2,000 school-books, with the prices at which we accept second-hand as well as new books.

## We pay cash

For all marketable school-books, or if desired, we credit consignments on account, to be paid by us in other school-books from time to time as needed.

HINDS & NOBLE  
4 Cooper Institute New York City  
Mention this ad.

# The Elementary School Teacher and Course of Study

EDITED BY FRANCIS W. PARKER, DIRECTOR  
THE UNIVERSITY OF CHICAGO SCHOOL OF EDUCATION

*Monthly, except in August and September. Subscription Price, \$1.50  
in the United States; Foreign, \$2.00. Single Copies, 20 Cents*

## PRACTICAL TEACHING PLANS

*for Kindergartners, Primary and Grammar-Grade Teachers,  
and Normal-School and Pedagogic Classes in*  
MONTHLY OUTLINES  
*(with Book References) on*

Philosophy of Education  
Psychology and Pedagogy  
Kindergarten—Theory and Practice  
Nature Study  
Field Work  
Home Economics  
Chemistry  
Geography  
History  
Literature

Mathematics—Elementary and Secondary  
Painting and Drawing  
Clay Modeling and Pottery  
Chalk Modeling  
Textiles and Basketry  
Manual Training  
Library Economy  
Physical Training  
Speech, Oral Reading, and Dramatic Art  
Vocal Music

---

*Work of each grade in University Elementary School  
Showing the Correlation of Subjects*

---

## READING LESSONS

**THE ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY** is an eighty-page monthly magazine for Teachers, Principals, Superintendents, and Parents.

It is used as a text-book by the pedagogic students in the School of Education. Each teacher in the school contributes to it outlines of the work to be done in all the departments and grades, as well as reviews showing how the outlines for the preceding month worked out in practice. These outlines and reviews are valuable in giving the points of view, in theory and practice, of a corps of teachers expert in the observation and treatment of children.

In the School of Education all the teachers are students of children, and their class rooms are laboratories for child-study. Not only do they endeavor to discover the laws of human growth, but they apply practically the results of their study. They select, for teaching, subject-matter that is adapted to the physical and mental needs of the child, and through a course of study, made up in proper proportions of work for the head and the hand, they aim to bring about that co-ordination of mind and body which constitutes true education.

---

FOR INFORMATION AND SAMPLE COPIES ADDRESS

**The University of Chicago Press**

CHICAGO   
ILLINOIS

## Dining Cars Service à la Carte

ROSES are always on the tables,  
and delicate china, glass and  
silver add to the pleasure of a dinner  
well cooked and daintily served

All the Season's Delicacies  
at Very Moderate Prices

**Burlington  
Route**

OUR 8,000 miles of rail-  
road reach out from  
Chicago, Peoria and  
St. Louis to all the important  
cities in the west and north-  
west such as

**ST. PAUL  
MINNEAPOLIS  
OMAHA  
KANSAS CITY  
DENVER**

If you are going to any of  
these places or to the Pacific  
coast, kindly let me send you  
time tables and other informa-  
tion about our train service.

P. S. EUSTIS,  
Gen'l Pass. Agt., C. B. & Q. R. R.,  
CHICAGO, ILL.

## The Elementary School Record

A SERIES OF MONOGRAPHS ON THE ELEMENTARY  
SCHOOL OF THE PEDAGOGICAL DEPARTMENT OF THE  
UNIVERSITY OF CHICAGO

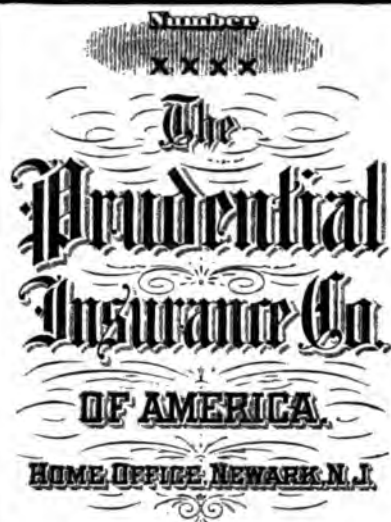
Edited by JOHN DEWEY and LAURA L. RUNYON

The object of the *Elementary School Record* is to make possible  
for use in other schools the details of subject-matter and  
method in the application of modern psychology in education,  
as demonstrated by the University Elementary School. The  
plan includes a series of nine monographs, each number con-  
taining a record of work done by a group in the school, and  
also an article concerning the work of one department in all  
grades.

The series, royal 8vo, cloth,  
net. \$1.75; postpaid, \$1.89.

**The University of Chicago Press**  
CHICAGO, ILLINOIS





*Insurance on the Life of*

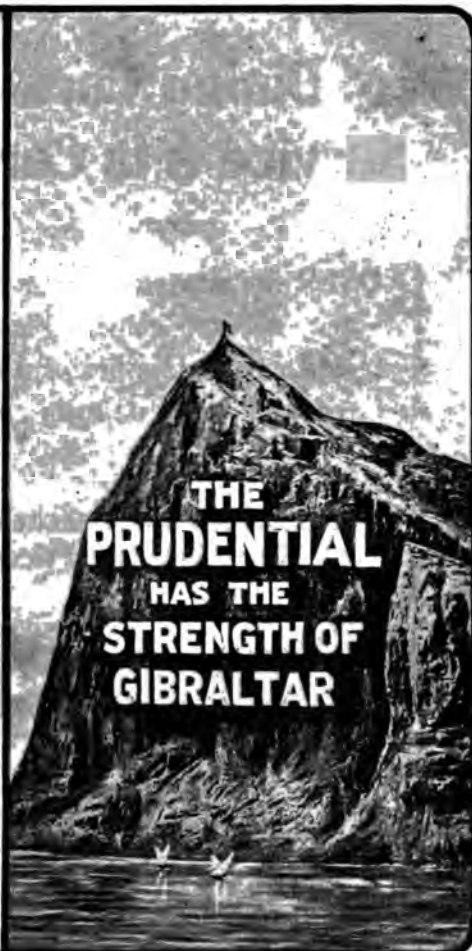
John Brown

*Amount \$* 10,000

*Date* July 1<sup>st</sup> 1902

Age 35

*Annual Premium \$* 290.60



**A 5% Gold Bond Policy Like This**

will furnish you or your beneficiary

**A Guaranteed Income**

for 20 years of 5% payable in Gold, then \$10,000 in Cash.

A Perfect Life Insurance Investment.

Write for information. Dept. 25

**THE PRUDENTIAL**

**Insurance Company of America**

JOHN F. DRYDEN, President

Home Office, NEWARK, N. J.

# THE ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY

JULY, 1902

SYLLABI OF COURSES IN THE SCHOOL  
OF EDUCATION, SUMMER QUARTER,  
1902.

## APPLIED PEDAGOGY.

FLORA J. COOKE, KATHARINE M. STILWELL,  
GERTRUDE VAN HOESSEN.

THIS course consists of a series of discussions on the school as community life.

Education is the all-sided growth of the individual, physical, mental, and moral. Community life is the ideal of education, because it is the only ideal great enough to provide for this all-sided development of the individual.

Community life is that state of society in which every individual member orders his conduct with reference to the good of the whole; the whole being so constituted as to necessitate the highest development of its members.  
— *Colonel Parker.*

### I. Organization of school life on a basis of —

1. Work—doing things for which the pupils feel a social need, as: (a) Gardening; cooking; working in wood and metal; clay-modeling; sewing; weaving; bookbinding; printing; photography. (b) Housekeeping, sanitation, and ventilation; care of grounds and neighborhood; decoration of school building. (c) Social entertainments; recognition of child's interests and emotions; parties; morning exercises; glee clubs; plays and games; observance of special celebrations, such as Christmas, Thanksgiving, Decoration Day, Valentine's Day, including the making of Christmas and birthday presents.

2. The study of human activities in the outside world which help children to interpret their own experiences through (a) industrial excursions; (b) news-

papers, books, periodicals, and pictures; (c) municipal government (in its largest sense); (d) civic and social life of the city.

3. The study of nature, through (a) field excursions, to give opportunity for contact with nature, to arouse and answer questions; (b) care of animals

## II. The curriculum.<sup>1</sup>

### I. GRAMMAR GRADES.

1. *History and civics*.—Use of history in studying the present social conditions. What history shall be selected for study? Industrial history; political history. At what age are pupils interested in it? Its relation to social and industrial life. Civics as an aid to self-government. Current events. Excursions, social and industrial, how to conduct them. Use of the information gained and the material collected. The stereopticon. Relation of geography to history.

2. *Science*.—Different aspects of this subject. Observation of nature; purpose. The landscape. Relation of reading to observation. Inferences. Study of the applications of science in the industrial arts of the community. Management of the class: (a) In the field: preparation; number of pupils in the class; order; use of material collected; expression. (b) In the laboratory: purpose and place of laboratory work; grouping; directions; amount of noise in laboratory; care of laboratory.

3. *Geography*.—Influence of topographic environment upon life. The evolution of that environment. Political geography. Commercial geography. Field work. Use of pictures. Maps. Sand and chalk modeling.

4. *Home economics*.—The study of the house and its evolution. Care of the home: plumbing, heating, ventilating, and lighting. Food: selection, preparation, and cost. Home relations.

5. *Literature and reading*.—What determines the selection for study. Oral reading. Effect of dramatic reading: (a) upon thinking; (b) upon the emotions; (c) upon acting. Dramatization of stories. Morning exercises. Special exercises—Thanksgiving, Christmas, Washington's birthday, Decoration Day, Commencement.

6. *Mathematics*.—Some results of number teaching. Some defects in teaching. The application of number to history, geography, nature study; teaching correlated number. Geometry in the industrial arts. Generalized number. To what extent can mathematics be correlated in the grammar grades?

7. *Music*.—A means of self-expression. Choice of songs. Notation; how introduced; with what motive. Scale relations and melodies.

<sup>1</sup> In this outline the topics for discussion have been grouped together for convenience, but in the presentation the modes of study and expression—reading, writing, drawing, etc.—will receive equal attention throughout the course with such subjects as geography, nature study, and history.

8. *Physical training*.—Does the body indicate normal development for age? Laws of growth and development. Characteristics of adolescence. Physical habits; standing position; position of body for reading, writing, and singing. Condition of sense organs. School hygiene: seating, lighting, heating, and ventilating. School diseases. Defects, mental, moral, and physical.

9. *Expression*.—Necessity for expression. Effect of expression. The modes of expression; painting, drawing, making, modeling, music, oral reading, speech, writing. Value of each. Acquisition of skill. Place of drill. Penmanship. Economy of effort. Preparation and care of materials used. Management of painting and drawing exercises.

## II. PRIMARY GRADES.

1. *History*.—Life and interest of the children the determining guide in the work. Work of a year outlined and discussed: (a) meaning of the home to children, its comforts, etc.; (b) construction by children of simple models of a house which would protect them in each season; (c) comparison of their work with that of other peoples—Indians, Eskimos, Pilgrims, etc.; (d) influence of environment upon the life and work of a people.

2. *Literatures*.—(a) The selection, adaptation, and telling of stories; (b) the place of myths and fairy-stories in a course of study; (c) discussion of a suggested list of stories told in connection with nature study, history, geography, etc.; (d) basis of the selection of such stories; (e) effect of good literature upon speech and written expression; (f) its intellectual reaction upon observation. Stories of industry and invention. Necessity precedes invention, and these stories are given when the children have made sufficient observation to enable them to understand the invention. Stories which embody ideals of courage, generosity, patience, strength, wisdom, unselfishness, kindness to animals, are selected, for the reason that the children imitate what they admire, and for the unconscious influence thus exerted upon character.

3. *Domestic science and arts*.—(a) Value of the primitive industries and arts in the early education of children; (b) the importance of simple work in school economics, sanitation, and hygiene in establishing an ideal of the primary conditions of good health in a community; (c) cooking, sewing, and making in wood, discussed from an educational point of view; (d) the necessary correlation of such work with the central subject of study; (e) discussion of the necessary equipment and illustrations of the kinds and cost of materials used in various schools.

4. *Nature study*.—Discussion of outlines in nature study, illustrated by the experiments and expression of the children in the primary grades. (1) Subject-matter: (a) fitted to bring children into contact with nature's phenomena. (2) Subject-matter: (a) relating to the necessities of life—food, air, water, hygienic living, etc.; (b) relating to the industrial arts of the community; (c) relating to the æsthetic development of the children.

(3) Expression; relation of reading and writing to such study. (4) Necessity of number (illustrated by work with the children). (5) Field trips; considered as the foundation of work in the schoolroom; (a) use of experiments; (b) study of types of landscape in the vicinity—swamp, lakeshore, dunes, etc.; (c) purpose of such study.

5. *Number*.—(a) Its place in the life of a child; (b) discussion of the number required for clear imaging in nature study, geography, and history; (c) the teaching of processes and arithmetical facts to little children; (d) the place of drill; (e) outline of a year's work in number with a class of primary children.

6. *Seat-work*.—(a) Essentials; kinds of work which arouse the best independent efforts of the children; (b) standpoint of criticism; (c) choice of material; (d) discussion of a detailed outline of seat-work for a year; (e) the probable results in habits, taste, knowledge, and skill; (f) discussion of models made by the children.

NOTE.—The teachers will be given an opportunity to make any or all of these articles—books, boxes, envelopes, tools, and apparatus—under the direction of the manual-training department.

7. *Reading*.—(a) Its purpose; (b) methods of teaching reading compared; (c) relative value of oral and silent reading in the schoolroom; special function of each; (d) mechanics of reading; teaching new words, and words the meaning of which it is not easy to make clear, such as connectives and some adjectives and pronouns; necessary repetition of words; use and place of phonics; use of the dictionary; (e) preparation of a good reading lesson; (f) discussion of typical reading lessons; reading for comparison of observation and experience, for information, for delight in expression; (g) the place and purpose of a reading recitation, or lesson upon the daily school program; the final test of a good reading lesson.

8. *Expression*.—(a) Value of the various modes of expression in a child's development; (b) the reason for choice—from the child's standpoint, from the adult's; (c) relation between a child's oral and written vocabulary; (d) economy in the teaching of language, spelling, grammar, punctuation, and capitalization; (e) methods of teaching writing compared; (f) comparison of the purpose and basis of this form of expression with those of drawing, painting, modeling, and dramatic action; (g) necessity and place of drill, and direction in all expression work; (h) the influence upon children of songs, games, gymnastics, manual training, and dramatization of stories; effect of artistic surroundings.

9. Final discussion of courses of study for the primary grades. Values compared: (a) the ideal of the teacher; (b) the governing motive of the children; (c) the self-activity exercised by the children; (d) the kind and quality of expression necessitated; (e) the habits established by the work; (f) the intrinsic value of the subject-matter; (g) the results in knowledge;

(*k*) the results in skill; (*l*) the amount of drill required, etc.; (*j*) the recognition and treatment of natural fatigue and of temporary weakness; (*k*) the recognition and treatment of physical, mental, and moral defects; (*l*) the recognition and treatment of the child's individual interests and marked peculiarities.

### III. School management.

1. The daily program: Should it be flexible or fixed? Grouping of pupils. Basis of promotions.

2. Order: What it is. Its relation to the ideal of education. Self-government. How far is it possible? Liberty *versus* license. Relation of privilege to responsibility. Relation of school democracy to national democracy. Is a democratic school organization for purposes of government advisable?

### IV. Relation of school to organized society.

## PEDAGOGY OF THE KINDERGARTEN.

BERTHA PAYNE.

THERE is, undoubtedly, great need of unifying the work of the kindergarten and the primary teacher. This need becomes greater as kindergartens multiply within the limits of the public school system. In spite of all that has been said on this subject during the past few years, a tour of visitation reveals the fact that the unification is yet far from being realized. The claim of the kindergarten is that it stands for certain definite principles that should obtain in all education. The consciousness of the possession and use of these truths by the kindergartner is in danger of isolating the kindergarten and putting the kindergartner in a class by herself, unless she looks into the work to be done just beyond her own sphere and tries to understand its meaning and its methods. To the primary teacher looking backward is equally helpful. The ideal training for each is to include practice above and below, and not preparation for work within one narrow limit.

The purpose of this course is to enable the students to take a view of both grades in perspective; to see the growing child both in the kindergarten and the grades; to ascertain the change in treatment demanded by a larger development of powers and interests; to follow the adaptation of subject-matter; and to

trace the application of Froebelian principles both in kindergarten and grades.

The first topic discussed will be the question of subject-matter and its relation to the children of the kindergarten and the first and second grades. What lies for each within the fields of the central subjects of history, geography, and science?

For convenience, the activities of the kindergarten will be grouped for discussion as follows: gift work, occupations, constructive work, games, songs, stories, nature study, and house-keeping.

The adjustment of these activities to the needs of the children requires a special study, which will be made under the head of program-making. This adjustment necessitates child study, which in turn will be undertaken by reviewing some studies that have been made, suggesting others that may be made, and comparing these with Froebel's teachings in the *Education of Man*, and with notes made in his autobiography and letters. *This latter work will be carried on especially with those who register for the entire quarter.*

Some special talks, or round-table conferences, have been arranged for those who desire to discuss problems connected with training of teachers and with supervision.

*Gift-work.*—1. Froebel's idea of the use of educative play materials: (a) evolution of material in complexity of form and number suited to the development in the children of perception, judgment, and control; (b) presentation of typical characteristics; (c) illustration of general laws of continuity, sequence, etc.

2. Sequence from the standpoint of logic, and sequence from the standpoint of the natural movement of a child's mind. Does the following of either of these two ideas of sequence result in the same development?

3. The "symbolism of the gifts" discussed.

4. Some phases of work and play necessitated by children's varying need of freedom and direction. Free play, imitation, suggestion, invention within limits, and dictation, illustrated.

5. Comparative values of building and designing for little children. Does the desire for conventional design, apart from anything to be decorated, have a large place in the kindergarten, and, if so, why? The limitations of representations of the real with sticks, rings, tablets, and lentils.

6. Discussion of illustrative use of material.

7. Discussion of work seen in the kindergarten and grades of the Model School.

*Occupations.*—1. Review of Froebel's occupations and their gradual development in his scheme of infant training.

2. Ultimate conception of them: (a) furnish an initial step in the child's identification of himself with the industries of the world; (b) as a continuous training in working over ideas of form and number and color into new symmetric combinations.

3. The predominance of one or the other of these two conceptions marks a separate school of thought and practice.

4. How can real tests be found for the efficacy of these occupations and of the additions that are being made to them? Some suggestions are tabulated as follows: (a) physical effect; (b) reaction on image growth; (c) need felt by children for the particular form of expression; (d) industrial relationship; (e) æsthetic reactions.

5. Discussion on the question of use of "Schools of Work" in the kindergarten and training school.

6. Suggestions for work in wood, pottery, and textiles.

*Games and plays.*—1. Distinction between plays and games.

2. Evolution of games as children develop: (a) activity for activity's sake; (b) holding a definite end to be reached; (c) growing complexity of mode by which end is reached; (d) competition.

3. Elements of interest: form, repetition, rhythm, concerted action, surprise, suspension, climax.

4. Historic evolution of games. Games of other nations and races, and their function.

5. Dancing games, rhythmic and gymnastic games, and appropriate music.

6. Dramatic plays: (a) nursery finger plays; (b) plays in which familiar experiences are represented; (c) illustration of stories; (d) dramatization of natural phenomena; (e) the initiative in plays.

7. Discussion of plays and games presented by students for criticism.

8. The principle of play throughout the school.

*Stories.*—1. Evolution of the story with the enlargement of experience and gain in power of concentration.

2. Nursery rhymes—"Mother Goose;" nursery jingles of all races. Elements of repetition and rhythm. Story of a child's own doings.

3. Dramatic events. Sequence of events without causal relations. Sequence with appreciation of cause and effect.

4. The stories that have lived, and their fitness at various stages of growth. Grading of stories.

5. Tests of good stories for little children.

6. Typical stories for the kindergarten from fairy tale, myth, legend, history, and children's real experiences.



7. Reading to children and story-telling.

8. Bibliography.

*Songs.*—1. Elements of a good song for little children : (a) purity and variety in melody and accompaniment ; (b) beauty of idea in text ; (c) agreement between text and music ; (d) fitness for the compass of a child's voice.

2. Typical songs sung and discussed.

3. Nature of a child's voice.

4. Use of the piano.

5. Growth of imagery through listening and singing.

6. Treatment of tone-deaf children.

*Nature study.*—1. Essentials to be held in view in planning nature work for the kindergarten and the first grade. Two conditions to be secured : (a) familiarity with certain objects, phases, and phenomena of nature ; (b) directed observation of particular events with experiment and further observation, direct tracing of effect to causes, and *vice versa*. The latter condition is at a minimum with the youngest group and steadily advances in importance as the children develop.

2. Choice of subjects for directed study. How shall it be determined? (a) phenomena must be familiar, yet must hold some point of newness in appearance, or suggest a question ; (b) some need should be served by the solution of the question, if possible ; (c) transition from cause to effect ; (d) the relation between effect and cause should be within the children's grasp without too long a series of experiments.

3. Two factors of importance in nature study : time, and opportunity for doing.

4. Aquaria, pets, gardens, and the opportunities they furnish for care, experiment, and wonder.

5. Seasonal changes and their meaning for kindergarten children.

*Program-making.*—1. Principal modes in vogue of correlating subject-matter for the kindergarten for the year and month.

2. Compare with the modes used in the first and second grades. What seems to be the difference ? What should be the difference ? The states of the growing mind and body should condition all change of treatment and enlargement of subject-matter. Study of interests, and of power of control or manipulation of ideas will reveal the chief grounds for diversification between kindergarten and first grade.

3. Three typical bases are found in the following : (a) the songs found in Froebel's *Mother Play Book* ; (b) leading thoughts, as lights, or giving ; (c) the seasons and the changes they bring.

4. Does the review, in play, of home activities furnish a large enough center ? Will it include a full measure of the ideal, the æsthetic, and the ethical ? Does the common life of the children in the kindergarten furnish opportunity for work and service that is a desirable addition to plays and

games? Have cooking, sweeping, dusting, and other forms of work a reason for being in the kindergarten?

5. Should the teaching of form, number, color, and design be made subservient to the accomplishment of real or playful ends in which accomplishment problems are met that must be mastered, problems involving knowledge and use of facts of form, number, etc.

6. Typical programs to be worked out and presented for suggestion and criticism.

*Child-study topics.*—(1) The growth of motive. (2) Evolution of moral control. (3) Reasonings of children. (4) Typical interests of three-year-old and six-year-old children studied through their manual expression. (5) Typical interests of three-year-old and six-year-old children as found in their plays. (6) Children's lies. (7) Children's fears. (8) Co-operation in play. (9) Religious instincts. (10) A kindergartner's bibliography of child study.

## NATURAL SCIENCE.

### NATURE STUDY.

WILBUR S. JACKMAN.

It will be the aim in this course: (1) To make the student familiar with the organization of the landscape through a series of studies in the field. (2) To make a detailed study of the materials observed and collected on the field trips. This will be done chiefly indoors, (*a*) by means of experiments in the laboratory, and (*b*) through the use of the collections in the school museum. (3) To show the adaptations of this study to the various stages of child growth as represented in the grades. (4) To show the relation of nature study to other subjects in the curriculum; namely, to history, literature, geography, number work, and all the arts—painting, drawing, modeling, making, reading, and writing. (5) To consider the proper forms for records which should be kept by the pupils who are engaged in nature study. Many of these points will be illustrated by work done by pupils in the Model School.

The lessons will be based upon a study of the landscape as an organism. It will be considered, first, as a whole, and then through each of its most important related parts. The study, therefore, will be an effort to determine the function that each portion of the landscape performs as a member of the whole, and

to discover, as far as may be, the relationship of function to form. The lessons, consequently, will be included in the following groups:

I. A general survey of nature.

Living. Non-living. Interrelations of each. The phenomena of change. Development. Decay. Color. Form.

II. Plants.

Their function; function of different parts; illustrative experiments. Form as a whole and in each part. Constituents of plants; of different parts; laboratory work. Work of the plant; application of number work.

III. Animals.

Adaptation to environment; illustrated by a study of birds. Relation of form to function; illustrated by a study of the earthworm and the frog. Mechanics of animal life.

IV. Non-living nature.

(1) Physical aspects: Sunshine; its distribution. Effects of light and heat, diurnal and seasonal. Variation of sunshine; means of measuring; effects upon the atmosphere. Meteorology; appropriate records. Water in nature; vapor, clouds, rain, dew, frost, snow; appropriate measurements and means of concrete representation. Study of instruments of precision. (2) Soils: their structure and constituents; origin; nature of the various elements. Relation to plants; to animals. Laboratory experiments. Properties of minerals.

V. Historic aspects of nature.

Study of fossil plants and animals—ferns and fishes; what these ancient forms imply in world history. Ancient landscape pictures. Evidences of world changes at the present time.

VI. Pedagogic aspects of nature study.

Relation to history and literature; to number, reading, and writing. Expression through color—painting, drawing, modeling, and making.

VII. Nature study and training.

What is true observation? Observations of children compared with those of adults. Evils resulting from a lack of training in observation. The use of the imagination in nature study; necessary conditions; its relation to observation. Relation of nature study to the development of the will. The discovery and appreciation of law; its universal application. Nature study as a factor in character-building.

For detailed directions for laboratory work *Nature Study for the Grammar Grades* (Jackman) will be used.

## ELEMENTARY FIELD WORK.

IRA B. MEYERS.

The field work in science for the summer quarter is a general study of the type-topographic areas of the Chicago region. The work is based upon a series of excursions to the lakeshore, lagoon and marsh area, sand dunes, ravine area (glacial till), ravine area (limestone), stream valley, etc. The study will include two considerations: (1) The investigation of each of these several areas with a view of becoming acquainted with their inorganic and organic content: mineral makeup; distribution of moisture; climatic influences; plant and animal life. (2) Field work in relation to grade teaching: aims and methods in field work; collecting materials and data; care and arrangement of materials and data for class study; collected materials as permanent equipment (the school museum).

*Suggestions in field work.*—Elementary education must be thought of in terms of development. Environment is recognized as a potent factor in all organic, intellectual, or social development; that the same general environment varies greatly in its influence on the residents of a region requires no argument. Interwoven with the study of materials, phenomena, and processes in all field work, topographic and industrial, is the more important study of that interrelation of the human being to environment which stimulates him to intelligent thought and action. Variation (change) is the starting-point of progress in the organic and social world. An area viewed as "everlasting hills" and never-changing valleys can have little influence as a stimulus in intellectual development. The same area, viewed as an ever-changing landscape, rendering necessary a constant readjustment of its plant and animal life, becomes infinite in its possibilities as a stimulus to thought and action. Every type of area may thus be looked upon as a unit of environment. Our problem is to bring ourselves into such relation to these units of environment that their latent possibilities may become potent influences in our lives.

The field study is from the standpoint of topographic change and the influence of this change upon the occurrence, form, and distribution of plant and animal life.

*General directions.*—Topography (for a detailed study of topography see Geography outline): Note the contour topography of the areas crossed and studied. The superficial materials of the several areas; their mineral make-up; conditions under which this material entered the area. Toward what land contour are these separate areas tending? What forces are most active in the development of this contour? Are these forces constant or variable?

**Plant life.**—Note the general distribution of the vegetation in each of these areas; bird's-eye-view appearance of the area as to marsh, meadow, thicket, and woodland; the conditions determining or influencing this distribution. Make a list of the dominant plants in each area, that give the area its characteristic appearance.

**Animal life.**—Keep a list of the forms of animal life seen in each of these areas. Also note any signs of animal life—tracks, burrows, calls, etc., where the living form is not actually seen. Observe as fully as possible the movement, food, and feeding habits, methods of foraging, protection, etc., of these animals.

#### CONDITIONS INFLUENCING THE PLANT LIFE OF A REGION.

During their growth and distribution plants are dependent upon certain conditions of temperature, air, moisture, light, and soil; variation in the nature and intensity of these factors greatly influence the plant life. The aim of field work is to observe conditions under which life exists, and to note the influence of these varying factors upon its occurrence, form, distribution, characteristics, and life-history.

1. **Soil conditions.**—(a) Nature of the soil in the various areas visited. (Collect samples and examine them. See *Nature Study for Grammar Grades*, by Jackman, p. 45.) (b) The part of the plant most closely related to the soil. (c) Soil conditions, physical and chemical, influencing plant growth. (d) The nature and cause of this influence. Examine plants with a view of determining depth of rooting, length of roots, whether thick or fibrous. Try to determine the conditions causing variation. Collect various soils for planting seeds, varying the compactness and moisture conditions of the soils, and noting the influence on the growing plants.

REFERENCE: King, *The Soil*.

2. **Temperature.**—Consider: The part of the plant most influenced by temperature during the heat of the summer. Conditions of plants at this season that may be attributed to the heat. The nature and cause of these heat influences. Are these conditions sufficient to account for the presence of prairies?

NOTE.—The influence of temperature on plant life is best studied in the spring and late fall. This phase of study must depend largely upon observations made during these seasons of the year.

3. **Light.**—(a) Consider the daily and seasonal variations in the light conditions of an area. (b) The part of the plant most intimately related to light. (c) The nature of the light influence upon plant growth and structure. (d) Variations in plant form and structure which may be considered as a response to the light stimulus. (e) Make a special study of the plant stem,

form of top, arrangement of branches and leaves, in their relation to light. (Experiments on growing plants under varying light conditions, a study of the light influence on plant color and the accumulation of plant material.)

*Moisture.*—(a) Variations in the moisture content of the soils of the several areas. (Make an examination as directed in Jackman, *Nature Study for Grammar Grades*, p. 48.) (b) Parts of the plant intimately related to moisture, securing it, controlling its distribution through the plant. (c) Variations in plant structure and plant form that may be attributed to a variation in the moisture conditions. (d) Plant societies; their physiognomy as influenced by the variation of moisture. (Special experiments on plant transpiration, its control, the response of the root of plants to moisture stimuli.)

Plants as influenced by surrounding plants.

The interrelations of plant and animal life.

#### ANIMAL LIFE.

GENERAL OBSERVATIONS: Forms found in each topographic area: Dominant forms. Occasional forms.

1. *Range.*—(a) Forms unrestricted in their range. (b) Forms restricted to a particular part of the area. (c) Forms present because of a particular physiographic condition—permanent residents. (d) Forms attracted by seasonal food—temporary residents.

2. *Movement.*—Demands for movement; range; factors influencing movement. Organs of locomotion. (a) As adaptations to different media—land, air, water. (b) As affected by some peculiar aspect of the same medium. (c) As affected by some peculiarity of habit.

3. *Food.*—(a) Condition or nature of food—liquid or solid. (b) Character of food—vegetable, animal, mixed. Food, vegetable; locating food; kind of plant; part of plant; effect of injury upon plant; plants attempt to resist undue injury; length of time food is available and relation to life of animal. Food, animal: method of locating and capturing food. Influence on foraging habits of the animal.

4. *Protection.*—(a) Adaptations which enable individuals to maintain their position among these various forms. (1) Life-forms living in areas inaccessible to other forms. (2) Specially constructed homes or shields. (3) Special protective organs. (4) Secretions. (5) Cunning and swiftness. (6) Color protection. Without visible means of protection. (b) Adaptations enabling individuals to resist seasonal changes.

5. *Homes.*—(a) Living isolated in pairs, in colonies, animal societies. (b) Living in constructed homes. (c) Depending upon accidental shelter of holes, crevices, etc. (d) Changing growing vegetation into homes—galls. (e) Songs, calls, etc.; purpose, methods of producing sound.

#### SPECIAL STUDIES.

A special study of our common animals, birds, batrachians, and mammals; their occurrence and habits as influenced by the conditions of their

environment. Animal life in the schoolroom. The school museum in its relation to field work and class-room study.

NOTE.—Students should provide themselves with a small handbag, gamesack, or basket, wide-mouth 8-ounce bottle, etc., for collecting materials for schoolroom and experimental work.

REFERENCES: Salisbury and Alden, *The Geography of Chicago and its Environs*; Cowles, *The Plant Societies of Chicago and Vicinity*; Jordan, *Animal Life*; Coulter, *Plant Relations*; Comstock, *Insect Life*; Chapman, *Bird Life*; Jackman, *Nature Study for Grammar Grades*; Hodge, *Nature Study and Life*; "North Shore Area," THE ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY, Vol. II, No. 3. (See also "Primary Mathematics," *ibid.*, Vol. II, No. 1.)

#### BEACH-POND-PRAIRIE AREA.

(Seventy-first street and the lakeshore. Illinois Central train to south shore.)

IRA B. MEYERS.

The conditions giving rise to a pond topography are varied. In the Chicago area three distinct origins may be recognized, each of which will be treated in its special area. (1) Pond formed by a sand-bar or beach line separating a portion of water from the main lake body; the first stage in this separation may be observed a short distance south of Edgewater; a second and a third stage may be seen in the area at Seventy-first street and the lakeshore. (2) Ponds formed by cut-offs in a stream; this is well developed along Thorn creek, between Thornton and Glenwood. (3) Ponds formed in the depressions on the irregular surface of the old glacial moraine, characteristic of the north shore area.

In each of these origins we recognize that there must have been a difference at the initial stages in the soil, water, and climate environment of each area, and that owing to these differences the story of the development of its life content must differ in several respects. A study of these ponds should aid us in securing some evidence of their origin, the changes they have undergone in reaching their present stage, the relation of these changes to their present soil, water, and life-content. Our special effort should be to collect evidences of change in the area, the nature and cause of this change, and its influence upon the past and present life of the area. The following outline is a consideration of the south shore area, with special reference to

the bottom of the swamp. Compare this soil with similarly collected soil from the border and prairie area. (These soils should be tested as to the per cent. of organic matter entering into their composition. See Jackman, *Nature Study for Grammar Grades*, p. 45.) Consider the conditions which would cause such a soil formation, and the influence of these conditions on the area. Make a list of the plants of this swamp-prairie area; (1) those growing within the water border, floating plants, rooted plants; (2) plants found along the marsh border; (3) plants characteristic of the moist prairie. The structure and proportions of root, stem, and leaves in these plants, as compared with the plants of the sand area. Conditions favorable and unfavorable to plant life in these several areas. Try to determine the influence of these conditions on the occurrence, distribution, and life-histories of these plants. List the animals common to these several areas. Try to determine something of their distribution, their food and feeding habits, their life histories, their probable manner of entrance into the area. (Collect materials for experimental study as to constituents of the different soils, water content of these various plants and their comparative rates of transpiration. Collect animal life for stocking aquaria and insect cages to be used in detailed classroom study and in expression.) This area should form a basis for a summary of all the facts with which you are familiar as to the occurrence, distribution, life-habits, and histories of swamp animals and plants as influenced by environment.

REFERENCES: Furneaux, *Life in Ponds and Streams*; Stokes, *Aquatic Microscopy for Beginners*; Needham, "Aquatic Insects of the Adirondacks," *New York State Museum Report*; Baker, *The Mollusca of the Chicago Area*; Needham and Hart, *The Dragonflies of Illinois*; Cowles, *The Plant Societies of Chicago and Vicinity*; Coulter, *Plant Relations*; Miall, *The Natural History of Aquatic Insects*; Elliott, *North American Shore Birds*; *Geology Survey of Indiana*, 1899.

## HISTORY.

### COURSE I. HISTORY IN THE ELEMENTARY SCHOOL.

EMILY J. RICE.

#### I. FUNDAMENTAL theories.

1. The school as a social institution. Adaptation of the curriculum to the needs of a progressive civilization.
2. Relation of subject-matter to experience.
3. Social occupations of the children. Standards by which these occupations should be measured.
4. Selection of historic material according to its value with reference to social work and activities.
5. Adaptation of subject-matter to experiences of children of different grades. Interest in social and industrial conditions; in political institutions.



6. Analysis of methods of teaching history.
7. Relation of history to other subjects of the curriculum: geography, literature, art.
8. Expression in constructive work, painting, drawing, clay-modeling, and dramatization.

II. Social activities in the school. Occupations as a basis for study of the evolution of industrial and social conditions.

1. Cooking and gardening. This includes preparing and serving lunches, the care of animals, and the care of a garden. Excursions to farms and visits to shops and factories.
2. Sewing and weaving: making of useful articles for the school and home.
3. Wood- and metal-work: making of furniture, utensils, and apparatus needed in the school. Visits to shops and industrial plants.
4. Making of pottery and baskets: visits to potteries, museums, and shops.
5. Printing, illuminating, and bookbinding: printing and binding of material useful for the school. Study of design.
6. Games, entertainments, and physical training.

Those taking this course are recommended to take *Courses 4 and 5 in the Arts*.

REFERENCES: Dewey, *School and Society*; *Elementary School Record* (University of Chicago); Parker, *Talks on Pedagogics*; ELEMENTARY SCHOOL TEACHER; Dewey and Young, *Contributions to Education*.

### III. Sociology and history.

1. Interaction of industrial and social environment and individual activity: Factors of present social and industrial life in the city of Chicago that enter into the experiences of the children in the elementary schools. Typical regions and industries of the city. Means of communication. The growth of the city, its settlement and early history. Some functions of the government: water supply; illumination; streets; bridges; protection—fire department, police department, health department, building laws; education; recreation; improvement associations. Distribution of work throughout the grades.

For topics and references see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 3, p. 198 (November, 1901).

2. Development of the household arts, and colonial history: Basis of the study, the actual work of the children in sewing and weaving. Special value of colonial history in the middle grades. Methods of cloth manufacture at the present time. History of inventions in the textile industries. Home life in colonial times. Work done in the house and on the farm. A New England village. The town-meeting. Physiographic features of New England and their effects upon occupations. Stories of the pioneers. A Virginia

plantation contrasted with a New England farm. Effects of geography upon industries and social life. Movement of the pioneers toward the west. Routes of travel. Development of co-operation among the colonies. Union of colonies for various purposes.

REFERENCES: Weeden, *Economic and Social History of New England*; Bruce, *Economic History of Virginia in the Seventeenth Century*; Doyle, *English Colonies in America*; Lodge, *Short History of the English Colonies*; Earle, *Home Life in Colonial Days*; Smith, *Colonial Days and Ways*; Singleton, *The Furniture of Our Forefathers*; Fiske, *Old Virginia and Her Neighbors*; Eggleston, *Beginners of a Nation*; Page, *The Old South*; Davis, *The Physical Geography of Southern New England*, "National Geographic Monographs;" Powell, *Physiographic Regions of the United States*, *ibid.*; Mill, *International Geography*; Eggleston, "Husbandry in [Colony Times]," *Century*, Vol. V, p. 431; "Commerce in the Colonies," *ibid.*, Vol. VI, p. 234; "Social Conditions in the Colonies," *ibid.*, Vol. VI, p. 848; "The Colonists at Home," *ibid.*, Vol. VII, p. 873; "Social Life in the Colonies," *ibid.*, Vol. VIII, p. 387; Chapin, "The Westover Estate," *Harper's Magazine*, Vol. XLII, p. 801; Page, "The Old Dominion," *ibid.*, Vol. LXXXVIII, p. 4; Robinson, "An Old Time March Meeting," *Atlantic*, March, 1902. See also COURSE OF STUDY (now ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY), Vol. I, No. 10, p. 863.

3. Games, entertainments, and physical training in the school. Greek education and games. Typical stories of heroic action and of public responsibility. Civic beauty: Revival of the Olympic games in modern times; plans for the games in Chicago in 1904. The Olympic games in ancient Greece. Rewards of victory. Famous statues connected with the games and physical training. Greek education. Growth of sculpture. Story of Ulysses among the Phæacians. Story of Achilles. Marathon, Thermopylæ, and Salamis. Reading of biographies from *Our Young Folks' Plutarch*, by Kaufman. Rebuilding of Athens after the Persian wars. The Parthenon. The Greek theater. Public buildings of Chicago and important statues in public places. Plans for improvement of the city. Stories of the Swiss struggle for independence, and of William of Orange and the siege of Leyden. Study of the revolutionary struggle in America.

REFERENCES: Falke, *Greece and Rome*; Guhl and Köner, *The Life of the Greeks and Romans*; Gardner, *Handbook of Greek Sculpture*; Tarbell, *A History of Greek Art*; Curtius, *History of Greece*; Davidson, *Aristotle and Ancient Educational Ideals*; Mahaffey, *Old Greek Education*; Whitaker, "Young Greek Boys and Old Greek Schools," *Popular Science Monthly*, Vol. LIII, p. 809; Richardson, "The Revival of the Olympic Games," *Scribner's*, Vol. XIX, p. 453; "The New Olympic Games," *ibid.*, Vol. XX, p. 267; Marquand, "The Old Olympic Games," *Century*, Vol. XXIX, p. 803; Motley, *Rise of the Dutch Republic*; Fiske, *The War of Independence and The American Revolution*; Lodge, *The Story of the American Revolution*; Tyler, *The Literary History of the American Revolution*. See also the ELEMENTARY SCHOOL TEACHER, Vol. II, No. 6, p. 412.

4. Printing, illuminating, and bookbinding, as occupations, and studies in the Middle Ages: Kinds of work that children may do for the school. Value to the individual. Invention and history of the art of printing. History of

bookbinding. Illuminated manuscripts. The scriptorium. Life in the monasteries. St. Francis of Assisi. Story of Giotto. The Florentine artists. The city of Florence. Life of the artisans. Guilds of the Middle Ages. Trades unions of today. Nuremberg and its craftsmen. The castle and the modern home. Trade from Venice northward. Story of Marco Polo. The mariner's compass and growth of the knowledge of geography. Search for the Indies and discovery of America.

Literature: Scott, *Ivanhoe*, *The Talisman*, *Marmion*; Tennyson, *Idylls of the King*; Lanier, *The Boy's King Arthur*; Longfellow, "Giotto's Tower," "Nuremberg," and "The Sermon of St. Francis."

REFERENCES: Buchot, *The Book*; Putnam, *Books of the Mediæval Ages*; Perkins, *Giotto*; Freeman, *Renaissance Sculpture*; Layard's-Kugler, *Handbooks of Painting*; Lambert, *Two Thousand Years of Guild Life*; Headlam, *Nuremberg*; Whitting, *Pictures of Nuremberg*; La Croix, *The Arts of the Middle Ages*; Labarte, *Illustrated Handbook of the Arts of the Middle Ages*; Bunbury, *History of Ancient Geography*; Tozer, *History of Ancient Geography*; Payne, *History of America*; Fiske, *Discovery of America*; Winsor, *Narrative and Critical History of America*; Yule, *Marco Polo*; Knox, *Marco Polo*; Brooks, *Marco Polo*. See also ELEMENTARY SCHOOL TEACHER, Vol. II, No. 7, p. 500.

5. Industrial development of the West and the national government. Current history: Settlement of Chicago. Relation of Chicago to the country. The frontier in colonial times. The Appalachian barrier and routes of travel across it. Settlement of Kentucky. Life in the Northwest Territory. A typical settlement. The city of Washington and the new government. Questions before congress today. Plans for the improvement of the city of Washington. Transportation and demands for roads to the east. Political separation between the east and the west. The Cumberland Road and the Erie Canal. The steamboat and the railroad. The wheat industry and the unification of the North. The cotton industry and the unification of the South. Political separation between the North and the South. The mining industry. The factory system of labor and its effect upon the worker.

REFERENCES: Mill, *International Geography*; Powell, *Physiographic Regions of the United States*, "National Geographic Monographs"; Sparks, *Expansion of the American People*; Roosevelt, *Winning of the West*; Turner, "The Significance of the Frontier in American History," *Annual Report of the American Historical Society* 1893, and also the *Fifth Yearbook of the National Herbart Society*, 1899; Schouler, *History of the United States*; McMaster, *History of the United States*; Wright, *Industrial Evolution of the United States*; Hammond, *The Cotton Industry*. See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 8, pp. 586, 629.

## COURSE II. HISTORY FOR THE PRIMARY GRADES.

EMILY J. RICE.

### I. School organization.

1. Relation of school and home. Specialization and organization of work in the school. Function of the teacher.

2. Relation of experience of children to selection of subject-matter. Social activities and occupations in the school.

3. Relation of changes in the school curriculum to changes in conditions of society.

4. Effects of the character of school organization upon methods of teaching.

5. Value of history in primary grades. Standpoint of children's interest in other times.

6. Relation of history and literature in the curriculum.

## II. Social activities.

1. Building and furnishing of playhouses. Beginning of the arts. Making of furniture and dishes.

2. Weaving and simple needlework: making of useful articles for the school and home.

3. Cooking and gardening: preparation of luncheons. Care of animals.

4. Making of baskets and pottery. Visits to museums and shops.

5. Printing and bookbinding.

6. Games and entertainments.

Those taking this course are recommended to take *Courses 4 and 5 in the Arts*.

## III. Sociology and history.

1. House-building and interior decoration: Visits to buildings, shops, and museums. Stories of houses of primitive people. See models in Field Columbian Museum. Study of materials used in construction and of methods of transformation and transportation. Uses of utensils and dishes made. Occupations of the household. Study of methods of production and preparation of food and clothing. Stories of industry and invention. Adaptation of stories and story-telling.

REFERENCES: Müller, *Training of a Craftsman*; Viollet-le-Duc, *Homes and Habitations of Man in All Ages*; Gardner, *Homes and All about Them*; Cook, *The House Beautiful*; Wharton and Codman, *Decoration of Houses*; Wheeler, *Household Art*; *The Studio*; *The House Beautiful*; Harwood, "The Story of a Pine Board," *St. Nicholas*, Vol. XXV, p. 20. See also *ELEMENTARY SCHOOL TEACHER*, Vol. II, No. 4, p. 266.

2. The textile industry: Stories of primitive processes of spinning, dyeing, and weaving. History of people in the shepherd stage of development: country; nomad life; travel; social organization; the patriarch; food; property in flocks and herds; clothing; spinning and weaving; shelter; exchange; stories of the Hebrews; Arab life. Comparison of the shepherd with the hunter and the farmer. Beginnings of trade and navigation. Stories of the Indians and Indian myths.

REFERENCES: Mason, *Woman's Share in Primitive Culture*; Sven Hedin, *With the Shepherds of the Khotan-Daria*; Doughty, *Arabia Deserta*; Mumford, *Oriental*

*Rugs*; Holt, *Oriental Rugs*; Baldwin, *Old Stories of the East*; Andrews, *Each and All*; "A Suit of Clothes," *Harper's*, Vol. LXXX, 1890, p. 685. See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 4, p. 267.

3. Cooking and gardening: Visits to farms and shops. Study of materials used in cooking and of methods of production as seen at farms. The city as a center for distribution. Means of transportation. Settlement of a western farming community. Story of Abraham Lincoln. History of agriculture. Methods of obtaining food with primitive tools. History of the plow and other agricultural implements. History of the mill. Early methods of cooking and of making pottery. Flax and cotton culture. Agriculture in ancient Egypt. Stories from the *Odyssey*.

REFERENCES: "Agricultural Machinery," *Iconographic Encyclopedia*, Vol. VI, p. 177, plates 1-8, 56-60; Small and Vincent, "The Family on the Farm," *An Introduction to the Study of Society*; Abbott, *Primitive Industry*; Binns, *The Story of the Potter*, Wilkinson, *Ancient Egyptians*, Vol. II, pp. 377-429; *Odyssey* (translated by Palmer). See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 4, p. 269.

4. Printing and bookbinding: Inventions that have developed means of intercommunication; printing, books; boats, railways. Stories of famous explorers. The early history of Chicago. Some modes of municipal service.

REFERENCES: See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 7, p. 500, and Vol. II, No. 3, p. 198.

#### QUESTIONS FOR DISCUSSION IN COURSES III AND IV.

VIOLA DERATT.

I. Choice of subject-matter. The selection, from the field of sociology and history, of material suited to the development of the children in the various grades. Selection determined by environment, child-study, aim, response to social demands.

Should the teacher or the children select the subject-matter?

Environment: Limitations of schoolroom life. Relation of social and industrial environment to conception of history.

How is imagery of past events attained to?

Child-study: Limitations imposed by nascent periods.

Is a knowledge of psychology useful to a history teacher?

Aim: History study as a factor in mental growth. Response to social needs. Possibility of subject-matter being chosen through need of serving the community.

To what extent should a child be of use in society? Should his work be of commercial value?

II. The activity being chosen, how entered upon? Observation. Field work.

Has history less demand for field work than science?

Reading: Evils of.

How much reading is good for children?

Expression through work developing into arts.

Can children do work of artistic value? How much skill should be sought? What is the value of so-called "constructive work" in the teaching of history?

Relation of games, social entertainments, and other means of school organization to the aims of history-teaching.

Is "self-government" a failure or a success in the schools?

REFERENCES: Dewey, *School and Society, Psychology and Social Practice; Elementary School Record* (University of Chicago); Parker, *Talks on Pedagogics*; Donaldson, *The Growth of the Brain*; G. S. Hall, "The Ideal School as Based on Child Study," *Forum*, Vol. XXXII, p. 24; Krüsi, *Life and Works of Pestalozzi*; Guimps, *Histoire de Pestalozzi*; Sheldon, *Teacher's Manual*; E. Barnes, *Studies in Education* (Stanford University); Rice, *Outlines of History and Literature*.

### COURSE III. AMERICAN HISTORY IN THE ELEMENTARY SCHOOLS.

#### I. Discovery of America.

Its relation to geographical discovery as a whole. The growth of the world-map. Ships of the period of Columbus; their size, equipment, mode of living on board. Instruments for astronomical observation. Increase in means of communication, invention of paper and printing. Relation of printing to the advance of discovery. Observation of modern means of communication: boats, railroads, postal service, printing, telegraph, and cable. Correlation of the history of this period with science, mathematics, and geography.

*Literature.*—Selections from *Travels* of Marco Polo and *Travels* of Sir John Maundevill; Joaquin Miller, "Columbus;" Kingsley, "St. Brendan," *The Hermits*; Longfellow, "Sir Humphrey Gilbert," "The Lighthouse," "The Discovery of the North Cape," "The Ballad of Carmilhan;" Coleridge, *Ancient Mariner*; Kipling, *Captains Courageous*; Stevenson, *Treasure Island*; Kingsley, *Westward Ho!*; Fiske, *Discovery of America, Voyage of Magellan*.

REFERENCES: Marco Polo, *Travels*; Yule, *Marco Polo*; Brooks, *Marco Polo*; Knox, *Marco Polo*; Keane, *Evolution of Geography*; Bunbury, *History of Ancient Geography*; Freeman, *Historical Geography*; Tozer, *History of Ancient Geography*; Fiske, *Discovery of America*; Payne, *History of America*; Winsor, *Narrative and Critical History of America*; N. Ponce de Leon, *The Caravels of Columbus*; Irving,

*Columbus*; Ford, *The Writings of Columbus*; Seelye, *Columbus*; "Columbus' Journal 1492-3," *Hakluyt Society Publications*; "Vasco da Gama, *ibid.*;" Towle, *Vasco da Gama*; Guillemard, *Magellan*; Hart, *American History as Told by Contemporaries*, Vol. I; Bouchot, *The Book and its Printers*; Putnam, *Books and Their Makers*; "Printing," *Harper's Magazine*, Vol. LXIII, p. 841; "Old Printing Presses, *ibid.*, Vol. LXXXI, p. 398; "Paper, Printing," *ibid.*, Vol. LXXV, p. 113; "The Printed Book," *ibid.*, p. 165; "Origin of Printing," *ibid.*, Vol. XXXVII, p. 637; "Early Printing and Printers," *ibid.*, Vol. XI, p. 466; "Marco Polo and His Book," *ibid.*, Vol. XLVI, p. 1; "Caravan Journeys through Central Asia," *ibid.*, Vol. XIV, p. 506.

## II. The colonial period.

Survey of the Atlantic coast region and of the several colonial centers. Status of industries in England. Limitations on the transfer of English industries to America. Types of colonial life showing household industries. The beginnings of commerce, and manufactures in relation to commerce. The advance to the Appalachians. Conditions of travel and transportation. Industrial relations between England and the colonies.

*Literature*.—Hawthorne, *Twice Told Tales*; Irving, *Sleepy Hollow*, *Rip Van Winkle*, *Knickerbocker*; Stedman, "Peter Stuyvesant's New Year's Call," *Poems*; Lowell, "Sunthin' in the Pastoral Line;" Longfellow, *Evangeline*; Holmes, "Grandmother's Story of Bunker Hill Battle."

REFERENCES: Shaler, *Nature and Man in America*; Guyot, *Earth and Man*; Wright, *Industrial Evolution of the United States*; Alice Morse Earle, *House Life in Colonial Days*, *Children of Colonial Days*; Doyle, *English Colonies in America*; Walton and Brumbaugh, *Stories of Pennsylvania*; Fiske, *Beginnings of New England*, *Old Virginia and Her Neighbors*, *The Dutch and Quaker Colonies in America*; Weedon, *Economic and Social History of New England*; Bruce, *Economic History of Virginia in the Seventeenth Century*; Lodge, *English Colonies in America*; Traill, *Social England*; Cunningham, *Development of English Commerce*.

## III. The settlement of the West.

Routes inland from the seaboard. Dependence of industries upon transportation. Pioneer life and adventure. Relation of the western pioneers to the Revolution. Geography of the interior. Growth of industries in the South and East. Improvements in roads and boats. Extension of United States government to the West. Exploration of the Northwest. The old Santa Fé trail. Immigration to California. Early railroads and their effect. General survey of the industrial condition of the United States before the Civil War. The Civil War as an "industrial revolution."

*Literature*.—Cooper, *Last of the Mohicans*, *The Pioneers*, *Deerslayer*; Irving, *Astoria*; Emerson, "Boston Hymn;" Catherwood, *Story of Tonty*, *Heroes of the Middle West*.

REFERENCES: Roosevelt, *Winning of the West*; Perkins, *Annals of the West*; Hinsdale, *The Old Northwest*; Winsor, *The Mississippi Basin*; Cooley, *Michigan*; Carr, *Missouri*; "Fergus Papers" (Chicago Historical Society); Wright, *Industrial*

*Evolution of the United States*; "Development of Mechanical Inventions in the United States," *Harper's Magazine*, Vol. L, p. 67. (For a complete reference list on this course see ELEMENTARY SCHOOL TEACHER, April, 1902.)

#### COURSE IV. HISTORY FOR PRIMARY GRADES.

##### I. Observation of present industries.

House-building, brick-making, preparation of lumber for house-building, weaving, sewing, gardening, farming, transportation, baking, dairying, milling, packing, pottery-making, iron-working. Selection of industries dependent on environment.

Schoolroom work related to these industries: reading, writing, modeling, drawing, making.

*Literature.*—Myths and fairy tales connected with these industries, or told irrespective of such connection. Tales of inventors and other workers.

REFERENCES: Viollet-le-Duc, *Story of a House*; Binns, *Story of the Potter*; Rock, *Textile Fabrics*; Chase and Clow, *Stories of Industry*; King, *The Land We Live In*, Part I; "Textile Art in its Relation to Development of Form and Ornament," *North American Ethnology* (House Miscellaneous Reports, 1887-88).

##### II. Questioning of the necessity back of the industries observed.

Dramatization of the conditions which compelled their discovery. Hunter life: food, weapons, dwelling, clothing, fire, cave dwellers. Shepherd life: domestication and care of animals, pottery, weaving, customs; stories of Hebrew shepherds, of Arabs, of modern types in Palestine. Beginnings of tillage; discovery of seed propagation; feeding of animals. Arts and customs dependent on fixed habitation: Pueblo dwellers, navigation; invention of boats, lake dwellers, Viking stories.

*Literature.*—Waterloo, *Story of Ab*; Josephus, *Abraham*; the Bible, "Joseph and his brethren;" Browning, "Muléy keh;" Lamartine, "Palissy," *Memoirs of Celebrated Characters*; X. B. Saintine, *Picciola*; "Ceres and Persephone," "Montezuma;" Hall, *West-Over-Seas, Four Old Greeks*; Longfellow, "The Crew of the Long Serpent."

REFERENCES: Joly, *Man before Metals*; Viollet-le-Duc, *Homes and Habitations of Man in All Ages*; Figuier, *Primitive Man*; Mason, *Origin of Inventions, Woman's Share in Primitive Culture*; Morgan, *Houses and House Life*; Doughty, *Arabia Deserta*; Starr, *Some First Steps in Human Progress*; Parker, *Fleets of the World*; Sven Hedin, *Through Asia*; Keller, *The Lake Dwellers*.

## GEOGRAPHY.

ZONIA BABER.

##### I. THE basis of a curriculum for elementary schools is found in the needs of society.



1. How the individual is educated: through the home, nature, the school, society, business, government: (*a*) part accomplished by each; (*b*) entrance into the work of every institution essential to the appreciation of the spirit of the institution.

2. Institutions seek to perpetuate themselves for their own sake, not for the sake of the individual: (*a*) compare European homes of mediæval times with homes of today; compare schools of mediæval times with schools of today; (*b*) individual adaptation to changing institutions; (*c*) effect of centralization of industries upon individual education; (*d*) effect of centralization of government upon individual education; (*e*) effect of city aggregation upon the education of the individual; (*f*) effect of isolation from nature upon the education of the individual.

II. Motive in all action: in the home; in the school; in society; in business; in relation to nature.

1. Effect of motiveless action.

2. Difference between the motive of the teacher and that of the pupil in school work.

3. Effect of school work for which a motive must be invented.

4. The child's motive for the study of reading, writing, history, geography, nature study, drawing, modeling, making, etc. The teacher's motive.

5. Changes necessary to the formation of a school in which each pupil may have normal self-expression.

6. Should the school enter the commercial world? Advantages, disadvantages.

III. Is the study of geography a social need?

1. Necessity of the intelligent enlargement of a sympathy for the peoples of the world.

2. Necessity for an intelligent appreciation of natural phenomena in relation to individuals and nations.

3. Curriculum in geography for elementary schools: (*a*) basis of choice of subjects; (*b*) what aspects of the subject can pupils really enter into?

#### COURSE FOR PRIMARY GRADES.

Normal interests of pupils from six to twelve years of age in the home, in society, in business, in government, in the school, in nature.

I. The home.

1. Shelter. Manner of construction: (*a*) tent—Arabia, Mongolia, India; (*b*) grass house—Java, Yucatan, Cuba, Hawaii; (*c*) snow—Greenland; (*d*) stone, visit to quarry; (*e*) brick, visit brick kiln at Purington; (*f*) lumber, manner of obtaining lumber, lumbering in Michigan, compare with similar industry in Burma.

2. Lighting: (a) oil, vegetable and animal; candles, gas, electricity; (b) how obtained? visit gas and electric plants.

3. Heating and cooling the home. Heating: (a) brazier—Mexico, Japan; (b) kang—Corea, China; (c) stove—America, Germany; (d) furnace—America; (e) Yaryan system. Cooling: punka—India. Fuel: (a) location; manner of obtaining wood, charcoal, coal, coke, gas, oil.

4. Water: (a) rain—cisterns; where used; (b) underground—source; wells—manner of digging; (c) rivers, lakes; (d) means of lifting water from wells, rivers, lakes; sweep (shaduf)—Egypt; sequiya—Egypt and Yucatan; pump—visit one of the city pumping stations; (e) water carriers in Egypt, India, Mexico; (f) conditions which favor the use of wells, rivers, lakes, cisterns.

5. Food. Source: how obtained—hunting, fishing, agriculture, grazing, manufacture. (1) Hunting—in mountains and plains in cold, temperate, and hot regions; Eskimos a type of peoples who live by hunting. (2) Fishing on Lake Michigan; cod-fishing on Atlantic coast; fishing in Norway and Japan. (3) Agriculture: (a) type of farming in Illinois, Egypt, Java; (b) products we use from an Illinois farm—wheat, corn, oats, fruits: means of cultivation; (c) products we use from a tropic farm: rice—Java; sugar—Cuba; tea—Ceylon; coffee—Brazil; cocoa—Mexico; tapioca—Jamaica; tropic fruits: oranges, pineapples—Florida; bananas—Hondurus; how grown? transported? (4) Agriculture: soil; moisture; heat; drainage: (a) soil—sand, gravel, clay, loam, humus; experiment showing effect on growth of vegetation (see "Natural Science"); (b) moisture—experiments showing moisture relation to plants (see "Natural Science"); India, Sahara, Illinois; (c) heat relation to vegetation; experiments (see "Natural Science"); effect in Jamaica, Illinois, Greenland; (d) drainage—river, ditch, tile; slope—angle of condemnation in Himalayas; (e) destructive agents—frost, wind, drought, floods, animals, other plants; means of protecting against each. (5) Grazing: animal products from grazing areas. (6) Preparation and cooking of food: a Japanese dinner, Chinese dinner, Arab dinner, Mexican dinner.

6. Clothing: (a) source and manner of production of cotton, flax, silk, fur, wool, hair, leather (see "Textiles"); (b) jewelry—mining gold, silver, precious stones.

## II. Nature: Industrial and æsthetic aspects. Genesis of geographic forms.

1. Lakes: Lake Michigan's contribution to Chicago; study lakeshore; (a) drinking water, manner of obtaining; (b) fishing; (c) commerce—grain, iron, lumber, food, and manufactured products; (d) work of waves, wind, and littoral currents along the lakeshore—cliffs, bars, spits, dunes; study cliff-making along the north shore, and dunes along south shore; reproduce similar forms in laboratory; (e) harbors along coast; means of maintaining good harbors; (f) light-houses and life-saving stations; visit station.

REFERENCES: Salisbury and Alden, *Geography of Chicago and its Environs*; Shaler, *Beaches and Tide Marshes*; Davis, *Physical Geography*; Tarr, *Physical Geography*; Russell, *Lakes of North America*. For outline on rivers, glaciers, wind, see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, pp. 50-53. See also "History," syllabus of Course 2, in this number.

#### COURSE FOR GRAMMAR GRADES.

The curriculum (see "Course for Primary Grades"). Interests of children from ten to fourteen years in nature, society, government, industries, current events. Present commercial movement a world-uniting interest. A knowledge of the world's geography an essential.

#### THE WORLD AS A WHOLE.

##### I. Distribution of land masses.

1. Western land mass one continental area. (1) Western highlands: Rocky Mountains, Sierra Madre, Central American mountains, Andes mountains: (a) general characteristics—volcanoes, plateaux, mountain ranges; (b) effect on the remainder of the continent; (c) mountain industries. (2) Central plain in North and South America; depressed in Gulf of Mexico and Caribbean sea: (a) effect of the central plain on the remainder of the continent; (b) indigenous vegetation of the central plain; (c) industries developed in consequence of the plain; (d) effect of the depression of the plain in the Gulf of Mexico and Caribbean sea; (e) would it be to the advantage or disadvantage of the continent if the American Mediterranean should become land? (f) would it be advantageous to the continent, or otherwise, if the American Mediterranean pierced the continent? (g) What are the location advantages, or disadvantages, of the West Indies? Could they have a more advantageous location than they have? (3) Eastern highland: Canadian, Appalachian, Guiana, Brazilian: (a) characteristics; value to continent; effect on development. (4) Distribution of river systems; effect on the development of civilization. (5) Coastal plains. (6) Climate—distribution of heat, prevailing winds, distribution of rainfall. (7) Distribution of forests, prairies, deserts. (8) Distribution of industries—farming, mining, grazing, fishing, hunting, lumbering, manufacturing. (9) Distribution of cities; account for location. (10) Distribution of governments; cause for national divisions.

REFERENCES: Mill, *International Geography; Compendium of North America; South America*; Reclus, *Earth and its Inhabitants*; Shaler, *The United States of America; Our Continent; Man and Nature in America*; *National Geographic Monographs*; Russel, *Rivers of North America; Lakes of North America; Volcanoes of North America*; Carpenter, *South America, Social, Industrial, and Political*; Adams, *Commercial Geography*. For a special study of North America see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, p. 51.

2. The eastern land mass of Eurasia and Africa considered as one continent. (1) Highlands extending from Kamtchatka through southern Asia and eastern Africa; characteristics of mountains and plateaux. (2) Great plain extending through northern Asia and Europe, central and western Africa, interrupted by mountains of southern Europe, North Africa, Scandinavia: (a) have the plains and highlands the best relative position for the development of the continent? (b) advantageous changes. (3) Climate—distribution of heat, rainfall, prevailing winds. (4) Distribution of river basins. (5) Distribution of forests, prairies, deserts. (6) Distribution of governments; account for it. (7) Distribution of large cities; account for location.

REFERENCES: Mill, *International Geography; Asia, Europe, Africa*, "Compendium;" Mill, *Realm of Nature*; Reclus, "Asia," "Europe," "Africa," *Earth and its Inhabitants*; Sven Hedin, *Through Asia*. For a special study of Eurasia see ELEMENTARY SCHOOL TEACHER, Vol. II, No. I, p. 53.

3. Islands of the world: Location. Areas where islands are numerous; where islands are few. (1) Continental islands located. (2) Oceanic island: Formation: (A) Volcanic: (a) location—relation of continental volcanic regions to location of volcanic islands; (b) special study of Martinique and other volcanic West Indies, Hawaii, Krakatoa; appearance—rock, different kinds of lavas, ashes; vegetating new lava flows. (B) Coral: (a) conditions for coral growth; (b) location of coral island and reef; (c) special study of Bermuda Islands. (3) Division of control of islands among great nations of the earth: (a) use of islands as promoters of maritime enterprises; (b) the advantage or disadvantage to the United States of control of West Indies.

REFERENCES: Islands: Reclus, *New Physical Geography: The Ocean; Oceanic*.

Hawaii: Dutton, *Hawaiian Volcanoes; United States Geological Survey, Fourth Annual Report, 1882-8*; Wallace, *Island Life*; Alexander, *Islands of the Pacific*; Dana, *Characteristic Volcanoes*; Mrs. J. S. Bishop, *Hawaiian Archipelago*; Maxwell, *Lavas and Soils of Hawaii*; Judd, *Volcanoes*; Hull, *Volcanoes*.

West Indies: Hill, *Cuba, Jamaica, and Porto Rico, with Other Islands of the West Indies*; Hill, "Geology of Cuba," *Bulletin*, Vol. XVI, No. 15, Museum of Comparative Zoölogy, Cambridge; Hill, "Geology of Jamaica," Vol. XXXIV, *ibid.*; Hearn, *Two Years in the West Indies*; Paton, *Down the Islands*; Kingsley, *Westward Ho! and At Last*; Agassiz, *Three Cruises of the Blake*; *National Geographic Magazine*, May, 1898; Reclus, "North America," *The Earth and Its Inhabitants*; Stanford, *Compendium*; Agassiz, *Florida Reefs*; Agassiz, *Cruise of the Wild Duck*.

Coral and coral islands: Dana, *Distribution of Coral Reefs*; Darwin, *Bermuda*; Agassiz, *A Visit to the Bermudas in March, 1894*; *Bulletin*, Museum of Comparative Zoölogy, Vol. XXVI, No. 2; Heilprin, *The Bermuda Islands*; Thomson, *Atlantic*, I; Rice, *National Bulletin*, No. 25; Jones, *Naturalist in the Bermudas, 1859*; *Voyage of H. M. S. Challenger*, Part I; Mill, *International Geography*.

## II. Distribution of sunshine.

1. Change of place and time of sunrise, sunset; cause of variation in length of day here.

2. Regions of earth where night and day have least change.
3. Regions of greatest changes.
4. Apparent meridional movement of sun; difference in amount of sunshine received in same number of hours in summer and in winter.
5. Movements of isothermal equator: (a) movement of isotherm of 32°—northern and southern hemisphere; (b) movement of isotherms 60°–70° in northern and southern hemisphere; (c) effect of oceans, mountains, and plains on isotherms; (d) a knowledge of mathematical geography an essential in imaging continental landscapes.

REFERENCES: Jackson, *Astronomical Geography*; Newcombs, *Popular Astronomy*; Huxley, *Physiography*; Gregory, *Elements of Physiography*.

### III. Winds and rainfall.

1. Prevailing winds of this region.
2. Cause of winds: effect of temperature, moisture; barometric pressure; velocity of winds—cause.
3. Study of United States weather maps; changes in regions of "high" pressure; of "low" pressure; movements of storm centers; tornadoes.
4. Terrestrial winds: cause; direction of movement; velocity: (a) trade winds—change; regions affected; (b) westerlies—changes; (c) monsoons—cause, regions affected.
5. Relation of winds to distribution of life.
6. Regions of greatest rainfall: (a) relation of rainfall to the prevailing wind; (b) relation of rainfall to latitude, altitude; (c) relation of rainfall to topography; (d) regions of least rainfall—cause; regions of moderate rainfall—cause.

### IV. Ocean currents.

1. Cause; position in oceans.
2. Effect on continents.
3. Relation to winds, temperature, rainfall, fogs.
4. Relation to distribution of life.

### V. Distribution of vegetation.

1. Relation to rainfall and heat: (a) distribution of forests—cause; (b) distribution of prairies—cause; (c) distribution of deserts—cause.
2. Relation of vegetal distribution to civilization.

REFERENCES: Winds: Davis, *Elementary Meteorology*; *Physical Geography*; Ferrel, *Popular Treatise on Winds*; Waldo, *Elementary Meteorology*; Geikie, *Physical Geography*; Archibald, *The Story of the Atmosphere*; Gregory, *Elements of Physiography*.

Ocean currents: Reclus, *The Ocean*.

### VI. Distribution of man.

Relation of history to geography. (See COURSE OF STUDY [Chicago Institute], Vol. I, No. 1.)

## FIELD WORK.

The second term will be devoted to field work in geography and nature study in selected regions in Illinois, Iowa, and Wisconsin. The work will include a study of the topography and genesis of the regions visited; also a study of the industries and the plant and animal life as determined by this topography. The field work will be in charge of Miss Baber and Mr. I. B. Meyers. In case Mr. Meyers should not be able to go, a substitute will be provided.

## MATHEMATICS.

## COURSE I. APPLIED ARITHMETIC.

(Laboratory course.)

GERTRUDE VAN HOESEN.

THIS course has been planned with the year's work as a basis. When the data have been obtained, the work will be considered from the standpoint of adaptation to grade. In order to do this, special attention will be given to the teaching of the fundamental operations, fractions, decimals, and percentage, wherever the work demands their use.

## SOILS.

I. Classification in relation to locality, *i. e.*, garden, farm, swamp, forest, or lakeshore. (1) Examination as to mechanical constituents. (2) Examination as to properties: (a) percolation of water; (b) capacity to prevent evaporation; (c) capillarity; (d) inference in regard to the percentage of the different constituents in the various soils. (3) The relation of the earthworms to good soil. (4) Examination of soils in regard to physical constituents.

II. Examination of plants from the different localities. (1) Does the difference in soil affect the constituents or growth of the plants? (2) Comparison of plants from the different areas as to roots, stem, and leaves.

## WATER.

The relation of moisture to plant life. (1) Proof that plants absorb water. (2) Relation of the amount of water absorbed to the amount transpired. (3) Relation of the amount transpired to the leaf area. (4) Estimate the amount of water transpired from a small tree. (5) How much water has the tree at its disposal? (a) Find the volume of soil within reach of the roots. (b) Estimate the amount of water in this soil. (6) Effect of transpiration from land covered with forests. (7) Study of evaporation. What affects the

rate? (8) What amount of water is added to supply already in soil? Keep record of rainfall. (9) Use of water to the plant. (a) Test samples of the water which has transpired and that which the roots absorb. Inference. (b) Find the constituents of the fruit, leaves, wood, and soil of different trees.

#### TEMPERATURE.

Relation of temperature to growth. Use the sunshine and weather charts to find some of the causes for the change in the landscape.

#### GROWTH.

Determination of the growth of trees. The use of the records made of the physical measurements of the children.

The problems that come up in connection with manual training, cooking, and gardening, and those also that the teachers wish to solve in connection with their other work, will be considered in this course.

### COURSE II. THE INTERRELATION OF SUBJECTS IN ELEMENTARY MATHEMATICS.

HERBERT ELLSWORTH SLAUGHT.

It is believed that the teaching of arithmetic should have as a rational basis a thorough knowledge of at least the elementary subjects of mathematics with which it is so closely connected. An appreciative familiarity with algebra, geometry, and trigonometry, and desirably the elements of analytic geometry and calculus, not only provides the teacher with a fund of illustrative material for use in the class-room, but also gives the breadth of view, keenness of insight, and clearness of thinking which enable the possessor to formulate and pursue a sound and inspiring method of teaching. This course is designed to set forth the close relationship among these subjects, and to discuss the bearing of this upon the teaching of arithmetic. The work will involve both theory and practice, and each will be considered from the standpoint of the pupil as well as that of the teacher in the upper grades.

For convenience the matter will be considered under the following five topics:

I. The content of the various subjects in elementary mathematics. The classification of the subject-matter with reference to its relation to arithmetic.

- II. The number concept ; its origin and development ; its bearing on the development of the reasoning power.
- III. Ends to be sought in the study of arithmetic in the upper grades.
- IV. Consideration of various means of attaining the desired results in the study of elementary mathematics.
- V. The selection and solution of problems. Interpretation and methods of attack.

## SPEECH, ORAL READING, AND DRAMATIC ART.

MARTHA FLEMING.

EXPRESSION is a social function. The school gives ideal conditions for acquiring power in expression, and it should be organized to give the child ample opportunity to use this power for the good of the whole community.

I. *Expression*.—Expression is the natural result of all thinking, and, when controlled by the will, becomes a means of image growth. It is habit-forming. It is character-making. Expression has three functions: first, its physical function, the training and growth of the body; second, its intellectual function, reaction upon thought, for without expression educative thought is impossible; third, its moral function, the development of motive and the training of the emotions. These three are in reality one in action. Any attempt to separate them is fatal to all.

Expression is a necessity of growth, a revelation of power, of one's largest self and highest possibilities. Definite, clear thinking produces definite, clear expression. Vague, indefinite thinking produces vague, indefinite expression. It is uncertainty that paralyzes.

Each mode of expression has its own particular reactive function. Form, necessary to any clear imaging, is realized by the plastic arts—a closer analysis of form by drawing, of color by painting, of complete synthesis by writing. Dramatic art focuses the experiences gained in all the other arts, and combines them into one supreme act. The product of each mode of expression reinforces all the others. Children should get a wide outlook—taste, expression in every form—no specialization. (See Parker, "Relation of Self-Expression to Knowledge," *ELEMENTARY SCHOOL TEACHER*, Vol. II, No. 1 ; *idem*, *Talks on Pedagogics*, chaps. x, xi, xii, xiii.)

II. *Reading*.—Reading is thinking. It realizes ideas, focuses experiences, and forms habits. It presupposes a certain experience on a subject. It is an organic part of the study of any subject. Attitude of the child toward books. Preparation and motive for their use. Reading sometimes a dissipation. Waste of time and energy in learning to read. Where should the problem of learning to read be solved? The habit of thinking of the forms of expres-



sion. Reading to the children. Reading may be expressed by any of the modes of expression—speech, writing, painting, oral reading. (See Parker, *Talks on Pedagogics*, chap. ix.)

III. *Oral reading*.—Only one mode of expression. What kind of images demand oral expression? Compare oral reading and speech as modes of expression. Function of each. Relation to other modes. Agents of expression. When should a child express the thought acquired by reading in his own words? When should he read orally? Motives governing the desire to read aloud. Ideal conditions. Value of story-telling by children as a help to oral reading; of discussions on subjects of interest in the social life of the school; of drill upon literature committed to memory; of dramatic reading; of dramatic presentations. Is there too much oral reading in the school? Shall a child who is reading aloud be permitted to struggle with the pronunciation of a word? How keep him unconscious of his difficulty? Function of sight-reading. Material for sight-reading.

IV. *Dramatic representation*.—The dramatic instinct. Its manifestations in children. What part does it play in the child's development? Significance of children's plays, imitations, impersonations, and love for dramatic stories. Organization of these manifestations.

Relation to other modes of expression—pictorial art, music—a vital one. How shall it be utilized in the school? Into what should it flower; that is, if dramatic presentation is an organic part of the life of the school from the kindergarten on, what should be the outcome? Value to the teacher of a knowledge of the history of dramatic art and of the construction of a drama—its essential characteristics, its relation to life, its limitations, and the function of costume and scenery. Action and emotion in themselves not dramatic, except when they are part of an organized whole. Characters in dialogue is not necessarily drama. Pottery, painting, music, the drama, are traditional forms. They are tools which we accept as we do social institutions. A drama is created and is not complete until acted. The value of knowledge on any subject is determined by the quality and expansiveness of the emotion aroused, and its radiation into actual life and helpfulness. Intense emotional manifestations often result from vague, indefinite images. Emotion an end in itself, mind-disintegration. Importance of definite, clear thinking. Dramatic art, including music, an outlet for the great wealth of human emotion. They bring the whole range of emotional life under the will, and the expression is orderly, lawful, and accurate.

Relation of the story to the drama. Story-telling. Dramatic representation of stories. Characteristics of a story which lends itself to dramatization.

REFERENCES: Lessing, *Hamburgische Dramaturgie*; Freytag, *Technik des Dramas*; Price, *Technique of the Drama*; Boucicault, *North American Review*, January, 1878.

V. *Literature*.— Drill means training in thinking.

Dramatic literature should be chosen for drill. It should appeal to the higher emotions—love, courage, patriotism; to the sense of beauty and rhythm. It should have the characteristics of a good play. The images should crowd each other. The thought and emotion should be within the child's grasp, or relatively so. It should be used as an organic part of all subjects of study or of the interest in the life of the child, and at the point and time when the connection is closest. It should be a great thing that appeals to broad, universal experience, that keeps the individual moving out from himself, that gives insight into the unity and interdependence of men, and into the joy of service. It should call into strong, broad action all the agents of expression. Technique is gained under the inspiration of an aroused imagination. Analysis and interpretation of selections of literature adapted to children in different grades. Lists of selections that may be used with history, geography, and science in the different grades. Principles upon which a story or selection may be cut or adapted for oral reading. How to study a selection for oral reading. How to incite children to study a selection for oral reading. Value of silent, independent study of text. Study should be continued until some tangible result in expression is possible. Over-analysis. Criticism. Self-consciousness. Affectation. Genuine expression. Genuine quality, good or bad, is unconscious of itself. Expression; its effect. Study of individual children. Children as judges of literature.

We shall follow the work in the Model School, noting the use of books, the necessities and opportunities for oral expression, and shall select and study literature which answers the demands of the children. We shall, also, where possible, follow the work in history, geography, and nature study, and select and read orally any literature which will illuminate the subject, or give expression to the highest and best emotions aroused by that subject. This will make literature an organic part of the study of the subject. Rivers, mountains, plains, deserts, volcanic action, tides, oceans, floods, winds, sun, moon, shadow, birds, animals, trees, flowers, and "the ever recurring seasons," in their relation to human life, have been the inspiration and material of some of the greatest literature.

We shall begin the study of expression by expressing. As a preparation for this work, the teacher would do well to select a scene from a drama or poem, study it, live with it, and come to the class ready to express what it means to her.

Suggested literature stories: "Mother Goose" rhymes and jingles; *The Sleeping Beauty*, and other similar stories; Baldwin, *Stories of the East*, and *Story of Siegfried*; stories from the *Iliad* and *Odyssey*; the Bible; Harris, "The Tar Baby," and other stories from *Nights with Uncle Remus*; Scott, *Ivanhoe*; Kipling, *Jingle Book*; Irving, *Rip Van Winkle*.

Orations: "Webster's Reply to Hayne;" "Lincoln's Speech at Gettysburg;" Grady, "The New South."

Poems: Coolidge, "How The Leaves Came Down;" Stevenson, "The Wind," "Windy Nights," "The Wind in a Frolic;" Browning, "The Pied Piper" and "Hervé Riel;" Longfellow, "Paul Revere's Ride," "The Launching of the Ship;" Lanier, "Song of the Chattahoochee," "Owl against Robin;" Tennyson, "The Revenge;" Kipling, "Ballad of the East and West;" Read, "Sheridan's Ride;" Bret Harte, "John Burns of Gettysburg;" Thompson, "The High Tide at Gettysburg;" Walt Whitman, "O Captain, My Captain;" Scott, "The Chase," "Lochinvar," "Earl Douglas and Marmion."

Prose selections: Lew Wallace, "Racing with a Storm," *Prince of India*; Victor Hugo, "The Gamin," *Les Misérables*."

Dramas: "Julius Cæsar," "Merchant of Venice;" Rostand, "Cyrano de Bergerac;" Phillips, "Ulysses."

VI. *Technique*.—All that goes to the opening up of the channels of expression; the physical side of expression; how to do things. The mastery of technique—by expression, by imitation.

1. *Gesture*: This mode of expression involves the whole body, and demands health, physical freedom, and responsiveness. Special exercises for carriage and bearing, breathing, resting, for freedom and control, are, therefore, a part of the preparation for oral expression. The body is an instrument, and physical health and freedom determine, in a large measure, the possibilities of expression. Delsarte says: "Strength at the center, freedom at the surface, is the true condition of being."

*Gesture* a universal language, modified by nationality, temperament, and habits of life. Function of gymnastics as a preparation for expression. Gymnastics which have the forms of expression. Movements which express fatigue or physical weakness; movements which are the spontaneous expression of thought and emotion. Pantomime the expression of thought and feeling by bodily movements. Bearings, attitudes, inflections. Poise: relation to health, to expression; the greater the activity the greater need of poise; abnormal nervousness not intellectual intensity; poise means calmness in activity. Sitting, standing, walking. Good positions in seat-work and recitations. Exercises, plays, and games for making good carriage of body habitual. Rhythmic movements to music. Energy. Relation to health and expression. Control and direction of energy.

2. *Voice*: Power and significance of the voice in spoken language. Voice quality and intonations the expression of character, of emotional life, and of physical conditions. Voice in speech and song. Comparative ranges, extension of tone, and speech melody, and influence of the inflections of the speaking voice on dramatic singing. Training the ear to distinguish voice quality. Management of breath. Force, pitch, quality, inflection, accent, emphasis, pause, rhythm, purity, flexibility, responsiveness. Care and management of children's voices; abnormal voices.

3. Speech: Is there a standard English? How determined? Provincialisms; dialects. Training the ear to recognize speech qualities, to discriminate the elements—vowels, glides, and consonants. Bell's vowel and consonant tables. Training the speech organs. Formation of vowels; articulation of consonants. How shall the child be helped to speak good English? Phonics, and drill upon words. Habits of speech. The most economical way of correcting bad habits. Cause of speech defects; (a) Defective hearing. (b) Abnormal conditions of mouth and throat, such as enlarged tonsils, adenoid growths, narrow arch, mouth breathing, tongue-tie, and defective arrangement of the teeth. (c) Imitation of speech defects. (d) General nervous conditions. Diagnosis and treatment of speech defects. Value of such knowledge to the teacher. (See COURSE OF STUDY, Vol. I, p. 299.)

VII. *Exercises.*—History and significance of the great festivals common to the race—Thanksgiving, Christmas, Easter. National festivals and holidays—Washington's and Lincoln's birthdays, Memorial Day. Educational value of morning exercises. All exercises should grow out of the work of the school, and should be the culmination of study in some subject. Use of art, music, and literature in these exercises. Basis for arrangement of programs. Suggested programs. (See ELEMENTARY SCHOOL TEACHER, Vol. II.)

VIII. *Value of dramatic training for the teacher.*—Imitation is a potent factor in education. Action is one of the first things imitated. The teacher's habits of sitting, standing, walking, breathing, habits of speech, quality and use of voice, are imitated by the child. You may tell a child to sit up, to stand up, or to walk erect, but if *you* do not sit up, stand up, or walk erect yourself, your precept falls upon deaf ears. Gesture is truth to the child. He does not *hear* what you *say*, he *sees* what you *do*.

Effects of the teacher's voice upon the child's voice, and upon his moral nature. If the teacher's English speech is provincial, she cannot by any precept teach the best English. If the children are to read well, the teacher must have a deep-seated, abiding belief in the educative value of this mode of expression.

If the teacher does not spontaneously use voice, hand, face, and body in expression of thought, the children will become as narrow, as restricted, as wooden, as unexpressive, and as uninteresting as she is herself. If the teacher undervalues emotion and does not see its direct relation to thought, the children will soon learn to think that emotion must be concealed. The child reflects not only what we are, but also our ideals. The teacher should be able to interpret literature, and so create an ideal of genuine expression and a public sentiment among the children which demands the best in expression. She should be able to interpret the child, in a measure, through the bearings, attitudes, and inflections of his body, through the quality of his voice and his habits of speech. Other things being equal, the teacher

with dramatic power and dramatic training is a better teacher of any subject than one limited in this power and training.

## ART

### ART IN RELATION TO HISTORY AND LITERATURE.

JOHN DUNCAN.

#### I. CONTEMPORARY HISTORY.

THE object of this course is the study and the recording of the life going on about us. The child spontaneously attempts to picture this life, draws engines and ships and bridges and people engaged in every occupation. The course is planned to fit the teachers for the work of directing and developing this child art.

Streets and traffic: street-cars (trolley, cable, elevated), wagons, carts, cabs, automobiles, bicycles.

Foot-passengers: the postman, policeman, popcorn-man, fruit-vender, coal-man, newsboy, peddler.

Architecture: stores, post-office, library, museum, picture gallery, theater, bank, asylum, hospital, church, schoolhouse, bridges, tunnels.

Homes: occupations of home, children's games.

Gardens, parks, playgrounds.

Railways and railway stations, locomotives.

Ships and shipping docks.

Soldiers, barracks.

Factories (spinning and weaving), potteries, foundries, workshops (carpenter's, blacksmith's, tailor's, shoemaker's).

House-building, stone-cutting, paving.

Foreign areas—racial types.

Materials for this work: drawing pencil, fountain pen, water-colors, sable brush.

#### II. LITERATURE.

Our subject-matter will be drawn from three sources. During the first two weeks we shall be occupied with the fairy stories that are the delight of the very little folk. The next two weeks we shall take up the Greek stories, which are more suitable to the older children; and the last two weeks we shall turn to mediæval legends, which chime with the condition of soul of adolescence. The students will work up the subject-matter in the library, and among the pictures in the school collection.

That is to say, they will: (1) get up the spirit of the story; (2) study the archæology of the subject—costume, architecture, furniture; (3) refer to casts, picture-books, and to the school collection of pictures, to fill up their mental picture, and to suggest and help out with a proper technique.

They will also make rapid sketches from one of their own number, who will act as model, and who will assume a pose or costume on demand. This function of model they will discharge in rotation.

Materials needed for this work: soft drawing pencil, pad of water-color paper, sable brush, water-colors.

#### PAINTING AS A MEANS OF IMAGING.

JOHN DUNCAN AND ANTOINETTE B. HOLLISTER.

Expression in all its modes is a fundamental means of imaging. The results of expression, then, are to be looked for in mind-growth, and not in the forms of expression. Color is the emphasis and synthesis of forms. Painting is one potent means of studying landscapes. In a typical area of land may be found (1) surface (physiography); (2) vegetation (botany); (3) animal life (zoölogy); (4) clouds, sky, states of atmosphere (meteorology). All these things are in the closest interrelation, each thing depending upon all the others, as in the field study of plant life (ecology). The student, brush in hand, comes in contact with a typical landscape; colors bind the area into one whole, and the whole landscape is the simplest object to be painted. The painting demands close observation. The observer goes naturally from wholes to parts. The painting may be very crude, but if it is genuine, it is good; it expresses in some way the image "seen within;" it is the basis and beginning of better work. Here the careful critic is needed to suggest the main things that the student does not observe. Then comes a new trial. Painting reacts upon and enhances the growing image. The rule is, "Go from wholes to parts": the entire landscape, then a ravine, dune, tree, or shrub; from tree to branch, twig, leaf; keeping in mind the relations.

1. *Outdoor sketching* (field excursions).—(1) Typical landscapes painted

as studies of physiography, geology, botany, zoölogy, and meteorology. (2) Parts of selected areas — hill, valley, dunes, ravines, cliffs, lake, shore ; work of waves, winds, etc.; swamps — vegetation, animal life.

II. *Schoolroom work*.—On return from field excursions the landscape paintings will be repeated, of course without the presence of the objects. (1) Specimens collected on field excursions studied and painted. (2) Painting of roots showing adaptation to varying conditions of moisture. (3) Foliage, its adjustment to light, moisture, and temperature ; function of color. (4) Structure of stems : (a) stems that resist strong winds ; (b) trunks of trees ; (c) aquatic plants ; (d) underground stems ; (e) cross-sections of stems.

III. *Interrelation of plant and animal life*.—Dependence on soil, moisture, and climate. (1) Plants affected by animals. (2) Nature's devices for the protection of plants. (3) Color as a means of protection.

From the æsthetic side we may regard the landscape as a conglomeration of lines, tones, and colors from which the artist selects those which best express his subject-matter, and at the same time are in accord with each other and with his own spirit. Lines, tones, and colors affect the emotions much as do musical or unmusical phrases. It is necessary to consider these æsthetic relations, that the feeling aroused be appropriate to the subject-matter, and that the proper impression be produced with the greatest economy of means.

We must study to bring the landscape within the means at our disposal. For example, we must simplify the infinite variety of nature. The paint box will not permit us to render the intensity of tones as they appear to the eye. They must be transposed, and lines, tones, and colors must be arranged for our æsthetic purposes.

## CLAY-MODELING.

ANTOINETTE B. HOLLISTER.

THE greater part of the course in clay-modeling will be illustrative of the work done in science, geography, history, and literature. Through the manufacture of pottery the student will enter more fully into the industrial side of primitive and modern life. The modeling, decorating, and glazing of pottery will all be done in the school. This work will involve a study of design and will offer a large field for original work.

Historical scenes will be represented in the "round" and in low relief. These modelings will be cast in plaster or baked in the kiln. The casts may or may not be colored. Literature will be illustrated in the same way. Animals and insects will be modeled, and studies will be made of their homes and habits.

Some modeling of the flora of the region selected for investigation will be done, showing the adaptations of the plant to its changing environment, and recording its growth under different conditions.

Should they be required, relief maps will be made in connection with the geography.

### CHALK-MODELING.\*

IDA CASSA HEFFRON.

It will be the purpose in these lessons to lead the teachers to form vivid, definite images of typical features of the earth's surface, and to acquire the power to sketch easily and rapidly such features on the board and on paper. The materials used will be : blackboard and chalk, pencil and paper, and charcoal.

Clay- and sand-modeling will be used as a preparation for the chalk-modeling ; the different landscape forms and surface features will be studied from descriptions, photographs, pictures, stereopticon views, maps, and from models. Many of the features—for instance, river valleys, bluffs, beaches, ravines, and sand dunes—can be studied and sketched on the field excursions planned by the geographic department. Hints also will be given on the use of putty, and the making of plaster casts of maps in relief.

The first topic for consideration will be typical surface features and landscapes characteristic of the continents, such as plains, mountains, rivers, glaciers.

The next topic for attention will be pictorial or panoramic representation of larger sections of surface, as, for instance, river basins, mountain chains, plateaux, bird's-eye views of the

\* This outline has been adapted largely from Mr. Thorne-Thomsen's syllabus of last summer.



continents, etc. The sketches under this head, by combining the features studied before into larger units of surface, form a compromise between map and picture, and serve as an introduction to the next topic, that of relief maps.

After a careful study of the most important features under I and II, the teachers will be prepared to begin the making of relief maps, Topic III.

The last topic relates and applies the work of the previous topics to the study and teaching of the continents; it thus serves the purpose of a review of the whole subject.

#### DETAILS OF OUTLINE.

##### PRINCIPLES OF CHALK-MODELING — TECHNIQUE.

NOTE. — This part of the outline will not be taken up as a separate topic, but will be related to and discussed with the other topics.

##### CHALK-MODELING AS A MODE OF EXPRESSION.

Aim to describe, through the medium of chalk or charcoal, geographic features scientifically, rapidly, and at the same time artistically. This is possible where there is intense interest, a definite motive, and clear images, accompanied with feeling.

1. Chalk-modeling as a representation of mass; significance of term "modeling" (relief); use of lines in analysis of landscape. Economy of time and effort.

2. Composition: essentials and non-essentials.

3. Direction: Relation of slope of surface to direction of line: (a) Rolling surface — hills, waves. (b) Sloping surface — valleys, volcanoes, mountains. (c) Level surface — plain, beach, flood plain with winding river. (d) Steep surface — bluffs and cliffs, falls. (e) Combination of horizontal and vertical surfaces — buttes, mesas, plateaux; cañons and fiords; flood plain with bluffs.

4. The landscape seen from different points of view. (a) Perspective: atmospheric effect; diminution of size, convergence of lines, and foreshortening; the horizon line; details of foreground; color values, light and shade, shadows. (a) Compare use of white material on board, black material on paper.

5. How to show texture of surface: (a) Stratified and unstratified rock. (b) Alluvial, sandy, and rocky soil. (c) Cultivated and uncultivated ground. (d) Surface of water, ice.

6. Analysis of characteristics of landscape. (a) Slopes; angles of slope; concave and convex surfaces. (b) Curves, as beach curves, river curves. (c) Natural lines: meeting of surfaces; divides, shore-lines, drainage lines, sky-line. (d) Means of showing height, dimensions, magnitude.

I. SURFACE FEATURES AND LANDSCAPE FORMS TO BE  
CHALK-MODELED.

A. *Coast scenery*. — (1) Waves and breakers. Capes, cliffs, stacks ; reefs and islands ; isthmuses ; beaches, raised beaches ; caves ; sand dunes ; spits, bars, lagoons ; bays, estuaries, sounds. (2) Rising and sinking coasts, partly drowned coasts. (3) Appearance of coast-line according to stage of development. (4) Topography of lake flats, Chicago area as a type. (5) Artificially protected coast, harbors, piers, breakwater ; lighthouses ; wharves. (6) Types of boats.

B. *River scenery*. — (1) Landscape characteristic of upper, middle, and lower course of a river. (2) Deltas and alluvial fans ; bars, banks, islands ; terraces ; types of waterfalls, lakes. (3) Types of valleys, gaps ; forms of river erosion of dry or wet plateaux. (4) Successive stages in the wearing down of the land ; youth, maturity, old age (cycle of denudation). (5) Human features connected with rivers, as embankments and levees ; irrigation canals ; dams, locks, bridges. (6) Boats. (7) Underground water : caves, sinkholes, springs ; geysers ; natural bridges.

C. *Glacial scenery*. — (1) Types of glaciers ; valley glacier, continental glacier, Piedmont glacier. (2) Topographic features of glaciated country ; valleys channeled by ice, fiords, cirques. Glacial lakes : rock basins, Swiss lakes, Scotch lochs ; morainic lakes. Moraines and drumlins ; kames and eskers ; islands. Glaciated rock-floor with boulders. Icebergs.

D. *Mountain scenery*. — (1) Types of mountains : mountains by folding — Jura, Alps ; block mountains — Oregon ridges, Sierra Nevada ; mountains by denudation — table mountains, Scandinavian mountains ; laccolitic mountains. (2) Characteristic features of mountain scenery : (a) Types of peaks — needles, horns, domes — Castle Craigs, Mätterhorn, Pike's Peak. (b) Ridges — Alleghany ; ranges — Bernese Oberland ; systems, chains, cordilleras. (c) Valleys — longitudinal, transverse ; parks, mountain pass, cirques, edge (*Kamm*). (d) Snowfields, glaciers, torrents. (3) Young, old, worn-down mountains (*Monadnocks*). (4) Volcanoes : (a) Lava cone, ash cone. (b) Famous volcanoes: Vesuvius, Stromboli, Mt. Shasta, Chimborazo, Fuji-san Mauna Loa. (c) Crater lakes, caldera ; volcanic necks, dike. (5) Plateaux : young plateau, deeply dissected plateau, mesa.

E. *Landscape as affected by climate*. — (1) Desert, oasis ; tundras, arctic landscapes ; steppes and prairies ; tropical forests, jungles, savannas ; temperate forests ; swampy country ; cultivated surface, fields of grain, corn, rice. (2) Trees and plants which have a determining influence on appearance of landscape, as conifers, palms, cactus, mangrove trees. (3) Cloud forms.

F. *Surface features determined by climate*. — (1) Waste slopes and fans. (2) Bad Lands. (3) Topography of interior basins, salt lakes, salinas, playas. (4) Sand dunes of the desert.

G. *Ocean*.—(1) Appearance in quiet, in storm. (2) Arctic sea, floe ice, pack ice, icebergs. (3) Oceanic islands, volcanic and coral islands. Sea bottom with corals. (4) Types of vessels.

#### II. PANORAMIC VIEWS.

(1) River basins, plateaux, cordilleras, interior basins, cross-sections. (2) Bird's-eye views of the Mississippi basin, the Great Basin, Abyssinian plateau, Nile basin, plateau of Thibet. (3) Of North America from north to south, east to west.

#### III. MAPS.

(1) Function of chalk-modeled map compared with other maps. (2) Difference between map and picture. (3) Relief maps in sand. (4) Steps in making a chalk-modeled map; question of light and shade; unity of surface; gradation of color as to elevation; contrast of color; elimination of details; fallacy of making a flat surface with highlands superimposed. (5) Map representation of main features of a continent, as river basins, plateaux, mountain chains, hills. (6) Maps of the continents on the board and on paper. (7) Special maps: Egypt, Greece, Italy, India, China. Map of the Chicago area.

#### IV. PARTICULAR STUDY OF THE CONTINENTS—NORTH AMERICA AND EURASIA AS TYPES.

(1) Map of the continent, sectional maps. (2) Panoramic views. (3) Forms of landscape characteristic of the physiographic areas. (4) Important scenic features of the continent.

The different surface forms will be considered from the point of view of form, and as factors in determining appearance of landscape. The full discussion of these features with regard to their formation and geographic significance will be given in the course in geography.

The detailed outline above is suggestive of the work to be done in chalk-modeling, and offers material for the selection of the teachers; it may not be taken up in its entirety, or followed in the order indicated, but will be closely related to the lessons in geography.

#### TEXTILES.

CLARA ISABEL MITCHELL.

THE course in textile arts combines handwork, laboratory study, and discussion of a correlated course of study.

*Students registering for this course are advised to take the correlated courses in nature study, history, geography, and applied pedagogy, offered by the faculty of the School of Education.*

In discussion, the textile arts will be taken together as a fundamental race-activity, and will be considered pedagogically as (1) manual training; (2) industrial art; (3) applied science; (4) a means to the better interpretation of history and present social conditions.

1. *Manual training*.—Discussion of a course of study in spinning, weaving, sewing, and pattern-drafting for the elementary school, as outlined in the *ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY*, Vol. II, Nos. 7, 8, 9, 10. Instruction in the making of models for use in the different grades. Weaving of holders, small wool rugs, rag rugs, bags, and linen crash, on frames and looms. Making patterns and sewing of dust cloths, towels, aprons, caps, clothing for a large doll, and costumes for school plays or history studies.

2. *Industrial art*.—Weaving of rattan, raffia, splint, palmetto, and grass baskets. Design and stitching of pen-wipers, bags, belts, and scarfs in cross-stitch, outline, and satin-stitch.

3. *Applied science*.—(1) Dyeing of cotton and wool yarns, and of basket fibers. Use of the natural dyes—indigo, logwood, madder, fustic, turmeric, Brazil-wood, cudbear, and cochineal. Tests for dyes. (2) Study of fabrics; classification with regard to use; fitness to use; analysis; chemical tests for recognition of the different fibers. (3) Study of fibers; quality dependent upon culture; soil, climate, care, and social conditions essential factors. (4) Processes, plans, and models of spindles, weaving frames, and looms; excursion to mill for observation of steam-power Jacquard loom; preparation of process cases for school museum. Maps and pictures showing areas of the production of each of the textile fibers; markets; centers of manufacture; routes of transportation.

4. *History*.—Excursions, models, pictures, stories, and reading lessons which illustrate and help to explain the inventions of textile machinery; primitive processes; improvement of machines through need; change from home industry to factory system; the noted textile art-crafts of the past and the present; biographical sketches from the lives of inventors.

REFERENCES: Fischbach, *Textile Fabrics*; Rev. Daniel Rock, *Textile Fabrics; Tapestry; The Industrial Arts*, published by Chapman Hall; *Oriental Carpets*, published by the Royal Museum, Austria; *Oriental Rugs*; Roberts Beaumont, *Woolen and Worsted Cloth Manufacture*; T. F. Bell, *Jacquard Weaving and Designing*; Richard Marsden, *Cotton Weaving; The Cotton Plant*, report United States Agricultural Department; *Useful Fibers*, *ibid.*; Peter Sharpe, *Flax*; Jonathan Ruegg, *Silk*; Bowman, *Structure of Wool Fibre*; J. Merritt Matthews, *Smithsonian Report No. 6*,

"Textile Chemistry;" Hummel, *Dyeing of Textile Fabrics*; Chevreul, *Theory of Coloring*; Tylor, *Primitive Man*, and *Early History of Man*; Joly, *Man before Metals*; Mason, *Woman's Share in Primitive Culture*; Kellar, *Lake Dwellings of Switzerland*; United States Ethnological Reports; "A Suit of Clothes," *Harper's*, Vol. LXXX, p. 685; Nadillac, *Stories of Industry*; Yeats, *Commerce and Industry*; "Wool," *Johnson's Encyclopædia*; *Murche Science Reader*; Archer, *Wool, Flax and Linen*; Chase and Clow, *Stories of Industries*, Vol. II; Earle, *Home Life in Colonial Days*.

## WOODWORK.

### COURSES VI AND VII.

ANNETTE BUTLER AND ELIZABETH EUPHROSYNE LANGLEY.

THE manual-training department offers a course in woodwork for the grammar grades, and a course for the primary grades. The object of these courses is to present to the teacher conditions for obtaining the greatest amount of skill possible in the given time, and to consider the aims of educational manual training and the methods of carrying on the work. For the acquisition of skill, a series of models has been planned, with the purpose of presenting a number of exercises involving the use of all the common woodworking tools. The attempt has been made, also, to arrange a progression of difficulties which shall keep pace with the increasing power of the worker.

This particular set of models is not intended to serve in any way as a basis for a woodworking course for children, but for help to teachers in planning work for their own pupils, definite suggestions in the form of drawings and descriptions will be furnished.

Each member of the class will be asked to make a design for each of several objects which will be suggested by the teacher or by the class itself. These designs will be looked over with the class, and criticised from the structural and the artistic point of view.

The greatest emphasis will be placed upon the relations which the hand-work should sustain to the other school activities, especially in the primary grades.

Taking this point of view, we see that one employment of hand-work may be in constructing apparatus for carrying on

other lines of work; another, in decorating the class-room or making it more comfortable; and a third field is opened in the use of constructive hand-work as a means of illustrative expression, in the same manner in which clay-modeling and painting are used. The use of hand-work in this manner will be carefully examined and discussed.

The last and broadest field for the use of hand-work is in making the occupation itself the basis for a grade's work, and working from it as a center to those subjects which touch it intimately. This plan also will be illustrated and discussed.

In all the hand-work, the working out of the number and drawing connected therewith will be given prominence.

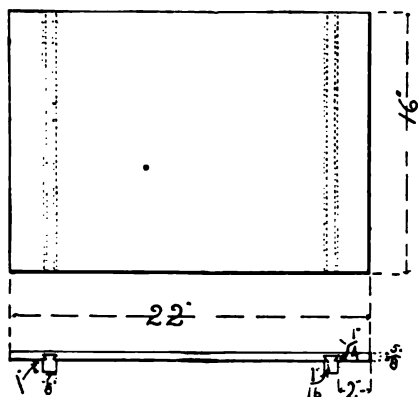
I. The history of the manual-training movement. (1) The growth from the industrial to the educational ideal.

II. The aims of manual training as a factor in education. (1) Training in motor control. (a) Importance of the hand as organ of the mind. (2) Effect upon character of the child. (a) Growth of will through voluntary activity. (b) Self-reliance arising from consciousness of ability to do. (c) Concentration, attention, honesty of effort demanded. (3) The child is given opportunity to direct his efforts toward concrete ends which intimately concern his own life. (4) Training in reason and judgment in selecting and adapting means to end. (5) Training of the artistic sense in appreciation of form, symmetry, proportion. Adaptation of design to function

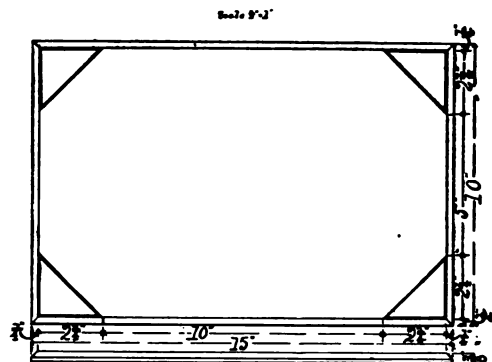
III. The principles are: (1) Effort to find a working basis in manual training. (a) Course of technical exercises. (b) Course of useful models—illustration of these courses by various systems of manual training. (c) The real needs of the child, either in school or home. (d) The interrelation of hand-work and other school occupations as a basis. (2) The problem of so arranging work upon the last two bases mentioned that increasing motor power shall result. (3) Extent to which child's initiative shall be followed in selecting and designing things to be made. (4) The proper time in the child's life for most effective hand-training. (5) The kinds of movement which make for best motor training. (6) Degree of skill and accuracy which should be expected. (a) Basis for criticism of product.

IV. The use of number and geometry in manual training. (1) Demand for use of fundamental operations of number. (2) The ability to estimate magnitudes through constant measuring. (3) The demand for geometrical constructions.

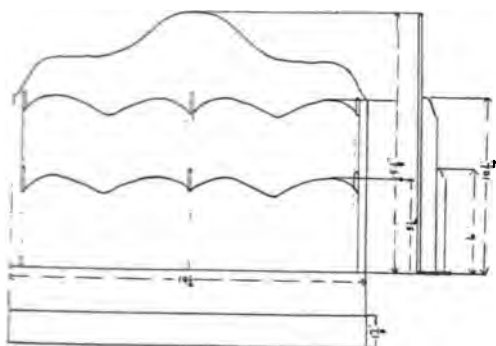
V. The use of drawing in manual training. (1) Free-hand sketches. (2) Orthographic projection and its application to working drawings. (3) Geometric projection. (a) Principles of geometric projection. (b) Where this form of drawing is most advantageously used.



Drawing Board.

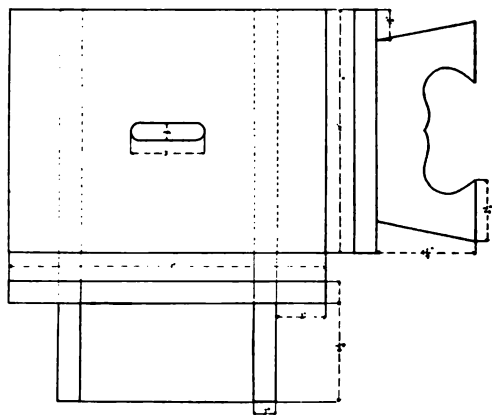


Blotting Pad. Popular.



Letter File

Ora Blon



Foot Stool. Popular. Edna Hort

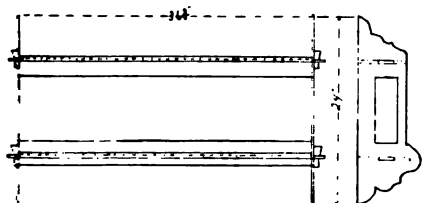


Plate Rack. Oak. Bertha Schenck

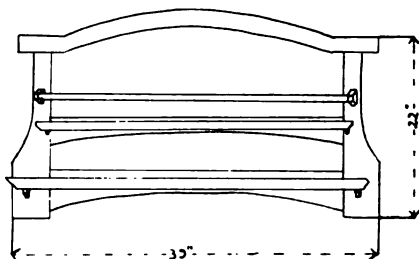
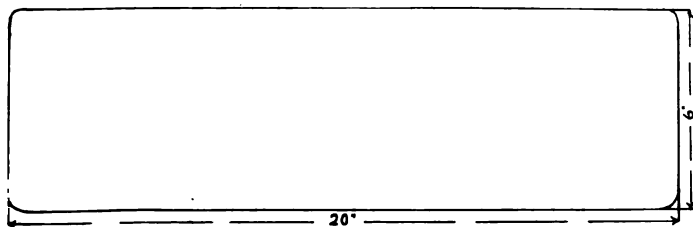


Plate Rack. Oak. Alice Hosmer



Desk Book Rack Cherry







VI. Study of construction and design in wood. (1) Limitations resulting from structure of material. (2) Methods of construction best adapted to various purposes. (3) Beauty due largely to correct proportion and construction. (4) Kinds of wood best suited to various purposes.

VII. Ornament in woodwork. (1) Use of ornament. (2) The problem of suiting the ornament to the material, function, and construction of the object to be decorated. (3) Practice in decorative designing, in wood-carving, staining, and marquetry.

## MUSIC.

ELEANOR SMITH.

NOTE. — Owing to Miss Smith's absence from the country, it is not possible to print the syllabus of her course. Her course will include, however, actual training in singing and a theoretical review of the field of school music; a critical study of songs; interval work; sight-singing; part-singing; grading of songs; and voice-training.

## PHYSICAL TRAINING.\*

CARL J. KROH.

COURSES X AND XI. THEORY AND PRACTICE OF SCHOOL GYMNASTICS.

COURSES in general gymnastics, with especial reference to the class aims embodied in the general scheme of gymnastics in the School of Education. The correlation of gymnastics, of free exercises, and forms of apparatus gymnastics. The study of purposive and effective training on the basis of gymnastic knowledge derived from the study of the structure and functions of the human body. The interpretation of individual needs and qualifications. The application of gymnastic principles to school recreation; the direction of plays, sports, and games.

### SYNOPSIS.

1. Scope and spirit of physical training as an educational discipline: Nature of physical training and its effects on the body, the will, and intelligence. The physiology of symmetry, form, and balance. General and specific considerations in a scheme of graduated school gymnastics.

2. Relations of anatomy and physiology: The tissues and their development. Organs and functions. Form, structure, use. Osteology; origin and growth of bones. Divisions of skeleton. Names and description of bones.

\*It is not possible to print the syllabi of Courses 13, 14, and 15, but the courses will be given as announced.

Elevations, depressions, perforations. Periosteum, blood vessels, cartilage. Articulations and classification of joints and bones. Form and extent of movement. Union of muscle and bone.

3. Myology: Classification of muscles; structure, form. Contraction, relaxation. The relation of nerve and muscle. Location of muscles; origin, insertion; mode and extent of action.

4. Physiology of nerves, of circulation and respiration: (See Courses 1 and 12, Department of Physiology.) Interpretation of effects of ordered procedure in gymnastic training on structure, function of organs, health. Tests for heart and lung conditions.

5. Instruction, training: Distinctions between healthful, orderly, and pleasurable gymnastic training, formal drill, and mere pleasurable activity for the sake of recreation. Concentration of mind upon purposive action, contrasted with mere spontaneous and involuntary play-action. General effects of systematic gymnastic training upon school work, in comparisons of group or class work, in general movement, control, and attention. Suggested appropriate and interdicted forms of exercise for school and home practice.

#### GYMNASIUM WORK.

(Supplementary to Course 10.)

*Tactics.*—Economy of movement; co-operation for definite purposes in gymnastic work and play. Orders of formations, re-formations, and transformations, involving massing, distancing, and evasion, by stepping, marching, halting, and turning, according to fundamental rules.

*Free exercises.*—Emphasis of distinct and progressive grade aims. Factors determinative in a selection of exercises; modifications of orders, form and kind—construction; appropriate demands in co-ordinate activities. Importance of movement-forms occurring in forms of applied gymnastics. Systematic practice of typical running and springing exercises, preparatory to elementary apparatus and field work. Movements and exercises in kneeling, sitting, lying, and stem-supporting positions. Tacto-gymnastic exercises. Dancing calisthenics.

*Applied resistance.*—Specific dumb-bell and wand exercises; extension exercises with elastic bands; use of balls, sacks, etc.; pole and ring exercises; Indian club-swinging exercises.

*Elementary apparatus gymnastics.*—Practical equipments. Methods of class work; group work. Gradation of pupils. Development of jumping, vaulting, and climbing exercises; uses of jumping apparatus, vaulting machines, vertical and slant ropes and poles; horizontal, slant, and vertical ladders, bars, etc.

*School and field games.*—Active, passive, and rest games. Games for the promotion of heart and lung action; active outdoor running games requiring most physical activity. Gymnastic plays for the cultivation of

the play-spirit; pleasure in moderate action; short competitive games. Games requiring superior physical and mental qualities; the exercise of skill, dexterity, the qualities of endurance.

COURSE XII. GENERAL AND APPLIED GYMNASTICS—ADVANCED COURSE.

The application of the results of scientific investigation to the needs of the normal body. The pedagogy of gymnastic instruction. The processes involved in progressive gymnastic development, and the methods for reinforcing progress; sequential order and construction in advanced work; the technique of execution, form.

The correlation of school gymnastics with school work in general. Organization, direction; co-operation of teachers. School plans, involving progressive aims from the kindergarten through the high school. Practical school anthropometry, including physical tests, measurements, and inquiries to determine condition. The adaptation of developmental measures to class and group work and in individual treatment. The adaptation of typical sports and games. The regulation of organized recreation in play-grounds. School field days. Planning of indoor and outdoor gymnasia. Presentation of a year's gymnastic curriculum.

PRACTICE.

This course will present a survey of progressively arranged material under the following heads of general gymnastics: (1) tactics; (2) free gymnastics; (3) light gymnastics—hand apparatus; (4) apparatus gymnastics; (5) games, plays, sports; antagonistics; (6) athletics; (7) special work—fencing, etc.; (8) remedial work.

Under "tactics" is included a study of the relative positions and movements of the individual and the group; the composition of gymnastic marches and roundel figures.

In free exercises and tacto-gymnastics, as well as in apparatus gymnastics, the German method of conducting class and group work will be illustrated.

The development of the higher organized gymnastic games, with especial reference to their adaptability to all grades, will form a part of the regular program.

Athletics, outdoor exercises, field sports, antagonistics, will be considered with reference to their legitimate uses on the school grounds.

Defensive exercises, as fencing and boxing, preparatory to special practice, are included under (1), (2), and (3).

Work designated assistive, resistive, co-operative, as physical work without apparatus, implies the reliance of gymnasts upon each other in the execution of exercises, assistance or resistance being required of one or the other, or several, according to the purpose intended. The substitution of pupils in lieu of gymnastic apparatus includes work under this head.

Æsthetic, "artistic," gymnastics find their highest expression in gymnastic compositions and "roundels," suggestive of interesting "themes." They include tactics and activities illustrative of definite gymnastic thought, generally accompanied by music or singing.

Fancy steps are derivations of the forms of exercise occurring under (1) and (2), with rhythmic changes in execution. In their execution the body as a whole participates, as in walking, gliding, skipping, hopping, bounding, etc. They are considered in their regular place in the order of adaptations.

Remedial work, a special form of work, is applied to defective and nervous children. As corrective work, it includes work for most ordinary defects superinduced by forced durance in schools, etc. It consists of movements, free exercises, standing, sitting, lying; of assistive and resistive work, carefully adapted and prescribed with reference to individual needs.

The psycho-physiological order and pedagogical values of the work will be discussed, and, in a measure, ascertained through demonstrations in class work. The study of new and complete co-ordination problems occurring in advanced free and light gymnastics, as well as apparatus work, will be based on the orders determined in these demonstrations.

#### FUNDAMENTAL GYMNASTICS.

A preparatory course for primary and grammar teachers, presenting the fundamental principles of educational gymnastics.

Order, analysis, and technique of free exercises. Methods of instruction. Adaptation of training to independent formulation of work outlines. Gymnasium practice in tactics, tacto-gymnastics, and free exercises, and the simpler organized games and plays for indoor and outdoor recreation.

#### SYNOPSIS OF DISCUSSIONS AND PRACTICAL WORK.

*Discussions.*—1. The educational and hygienic aims of gymnastics. Free movement-exercises—an efficient means of thorough physical training; fundamental to all gymnastic procedure.

2. Growth and development during the school age. Postural and movement characteristics and tendencies. Analysis.

3. Ordered procedure in the cultivation of movement concepts. The selection of appropriate forms of exercise ; the development of typical, and use of auxiliary, forms. Methods of progress, as determined in perceptible results. Estimates of condition, energy, control, skill. Age ; sex ; temperament.

4. Survey and valuations of gymnastic material ; adaptation to the various ages.

*Practical work.*— 1. Individual, group, and class practice in gymnastic tactics, to facilitate quick and concerted action. Modes of movement in and from place. Alignments, step, rhythm, etc.

2. Order of movement-forms, and exercises in free gymnastics, constituting regular lesson-orders. Construction, adaptation. Mechanical laws governing positions, equilibrium ; gradation of muscular resistance in motion and locomotion. Weight, force, space, etc. Movement analysis.

3. Plays and games based on sense-perceptions ; for lowering reaction-time between definite perceptions and actions : for ability to recognize advantages, and to follow most practical procedure—reaction of one of several sense-perceptions through most practical action suggested. Games requiring quick discernment, judgment, action. Characteristic school games for boys and girls.

4. Study of statistics of standards of physical development ; application to school needs.

#### MODEL-SCHOOL COURSE.

The grammar-grade work will embrace free-standing exercises, illustrating the different methods of gymnastic development. Appropriate procedures with references to demands, as warranted by the pupil's proficiency and power to follow gymnastic development, will be a distinct feature of the series.

The gymnasium work will be characteristic of work for boys as well as girls, and of work adapted to mixed classes. It will include free-standing, marching, and running exercises ; ditto with use of hand apparatus, as poles, wands, dumb-bells, Indian clubs, sacks, etc. ; also elementary-school gymnastics on apparatus, ladders, poles, rings, bars, etc. ; the development of jumping and vaulting exercises on vaulting apparatus. Lessons in the gymnasium conclude with appropriate games and plays.

#### SPECIAL.

Teachers merely in quest of personal improvement and recreation, who wish to avail themselves of the opportunities

offered in part periods of the supplementary and advanced courses, have the privilege of forming special groups, and thus entering into the active physical training and recreative work of these courses. Ladies are required to wear the regulation gymnasium costume, blouse and divided skirt (dark flannel preferred). All participants, including pupils, must be provided with gymnasium slippers.

## REFERENCES.

## PHILOSOPHY, THEORY, AND PRACTICE.

*Proceedings*, Am. Ass. for the Adv. of Phys. Edu., 1885-95 (address Jessie Bancroft, 80 Joralemon street, Brooklyn, N. Y.). *Encyklopädisches Handbuch des gesammten Turnwesens und der verwandten Gebiete*. Hirth's *Turnwesen*. Zettler, *Methodik des Turnunterrichts*. Dietz, *Physical Education*. MacLaren, *Physical Education: Growth and Development*. Schaible, *The Systematic Training of the Body*. Gutsmuth's *Gymnastik für die Jugend*. Jäger, *Neue Turnschule*. Sargent, "Ideals in Physical Education," *The Medical News*, July 6, 1901; "Physical Training," *Sanitarium*, March, 1894; "Physical Proportions of the Typical Man," *Scribner's*, July, 1887; "Physical Development of Women," *ibid*, Feb., 1889. Schmidt, *Physical Exercises and Their Beneficial Influence* (a synopsis of the German system of gymnastics); *The Training of the Body*. Monroe, *Bibliography of Education*. Compayré, *Applied Psychology*. Jäger, *Herkules am Scheideweg: Erzieherauf der neuen Turnschule*. Hartwell, *Types of Physical Training*. Hulley and Ravenstein *Handbook of Gymnastics and Athletics*. Faries, *Practical Training*.

## HISTORY.

Guhl and Köner, *Life of the Greeks and Romans*. Bruns, *Körperkraft und Geschicklichkeit des Menschen*. Plummer, *Athletics and Games of the Ancient Greeks*. Hartwell, *Physical Training* (U. S. Bureau of Education).

## PHYSICS.

Daniels, *Physics for Students of Medicine*. Kohlrausch, *Physik des Turnens*. Draper, *Medical Physics*.

## ANATOMY, PHYSIOLOGY, HYGIENE.

*Human Anatomy* (edited by Morris). Howell, *American Text-Book of Physiology* (physiology of muscles and nerves in relation to activity and fatigue). Lagrange, *Physiology of Bodily Exercise*. Hough, *Review of Swedish Gymnastics*. Marly, *Animal Mechanism*. Pettigrew, *Animal Locomotion*. Treves, *Physical Education*. Mosso, *A Collection of Papers on Various Topics in Physical Training, in Book Form*. Page, *Handbook of Physical Diagnosis*. Pilcher, *First Aid in Illness and Injury*.

## ANTHROPOMETRY.

Seaver, *Anthropometry and Physical Examination*: a book for practical use in connection with gymnastics. *Papers on Anthropometry* (American Statistical Assn., Boston). Porter, *The Growth of St. Louis Children* (includes a medical bibliography of anthropometry). Gulick, *How and Why to Take Measurements: a Manual of Physical Tests*. Mackenzie, *Notes on the Examination and Measurement of Athletes*.

## PRACTICAL GYMNASTICS.

*German-American Gymnastics* (Lee & Shepard, Boston). Posse, *The Special Kinesiology of Educational Gymnastics*. Happel, *Exercices du Corps*. Posse, *Handbook of Swedish Gymnastics*.

## REPORTS, ESSAYS, PAMPHLETS.

Kroh, *Synopsis of the German System of Gymnastics; Therapeutics of Medico-Gymnastic Movements*. Kroh and Stecher, "Systems," *Proceedings*, Nat. Assn. for Adv. of Phys. Edu. Arnold, "Some Principles Which Guide Me in Teaching the German System of Gymnastics," *ibid.* *Northwestern Monthly*, July, '97 (physical child number). "Boston School Document No. 8," 1894. Posse, *The Necessity of Physical Education: Means of Introducing it into American Schools*. Enebuske, *Gymnastic Progression*. Kroh, "The German System," *Proceedings*, N. E. A., 1898; "Reiseberichte aus der Schweiz und Deutschland," *Nord Amerikanische Turnzeitung*, 1885; "Reports on Methods in Italy, Switzerland, Germany, Sweden, America, 1900." Manuals of school gymnastics, by Betz, Burger, Ballin, and others.

## PLAYS AND GAMES.

Johnson, *Education through Play*. Kroh, "School and Field Games," *Mind and Body and Cook County Normal School Envelope*, 1893-99. *Gutsmuth's Spiele für Körper und Geist*. Schaefer, *Games for Schools and Gymnasias*. 100 *Gymnastic Games* (by alumni Boston Normal School of Gymnastics). "Games Popular with Georgia School Children," Report U. S. Commissioner of Education, 1894-95.

## OUTDOOR GYMNASIUM AND PLAYGROUNDS.

Toanoff, *Educational Value of Children's Playgrounds*. Reports on Chicago, New York, and Boston playgrounds.

## BATHS.

*Report on Public Baths*, by Mayor's Committee, New York city, 1897. "Report on Public and Industrial Baths in Europe," *Bulletin*, U. S. Department of Labor (includes twenty files of leading works on baths).

## MAGAZINES.

*The American Physical Educational Review*. *Mind and Body*. *Monatsschrift für das Turnwesen* (Berlin). *Zeitschrift für Turnen und Jugendspiel* (Leipzig). *Zeitschrift für Schulgesundheitspflege* (Hamburg). *Association Boys* (edited by Gulick). Posse, *Journal of Gymnastics*. ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY.

## FRENCH.

LORLEY A. ASHLÉMAN.

COURSES I AND II. THE PEDAGOGY OF TEACHING FRENCH.<sup>1</sup>

THE discussions in these courses will be based upon a close observation of the child's life, and of his interest in his games,

<sup>1</sup> These courses are given as majors during the first and second terms, instead of minors during the second term, as was announced.

his study, and his recitations. The student will compare the results of his own observation with the conclusions reached in the general discussions.

For convenience, subjects of discussion have been grouped together.

*Conditions.*—The sense impressions: sight, sound, taste, smell, and touch. Visualization; comparison of two images.

*Expression.*—The function of expression is imaging. The relation of observation to expression. Use and limitations of painting, drawing, and modeling.

Writing: its function and place; technical treatment.

Reading: the function of reading in language study; its relation to observation; learning to read; technical treatment; the study of good reading matter selected from the course outlined below; objective language; subjective language; figurative language.

*Study.*—Notes of study. The purpose of study; essential conditions for study; the use and limitations of books in study; the personal element in study.

*Recitation.*—The purpose of the recitation; necessary preparation; the mutual relations of the class and the individual in recitation; the function of the teacher in recitation; general plan of the recitation; common errors.

*Criticism.*—The basis upon which a class should be judged; the basis upon which a teacher should be judged; the proper modes of testing pupils; results that may be taken as a trustworthy basis for judgment; moral aspects of the language study; formation of the individuality; general culture; freedom from prejudice; tolerance; broad-minded patriotism.

*Home and school as places of activity.*—Activities of plants and animals; the atmosphere; social relationship; relation of different nationalities; colonization; human development (history).

#### A COURSE OF STUDY IN FRENCH FOR THE GRADES.

##### DISCUSSION.

#### I. Should teachers study modern languages?

"The study of a language extends our acquaintance with human nature, broadens our horizon, by giving us new ideas and more independence in our judgment of nations.

"Familiarity with foreign literature tends to destroy national prejudice by unfolding, as sanctioned by enlightened communities, principles of conduct, morality, and politics, differing from those we have been accustomed to regard as exclusively correct; it guards us from attributing universally to human nature tastes, feelings, opinions, and motives of action which belong only to our age and country. It brings us nearer to truth, by the examina-



tion, in different lights, of the various departments of knowledge. In short, exemption from prejudice, tolerance and benevolence to all men, take the place of presumption, intolerance, and narrow-minded patriotism."—*Marcel*.

"Through the idiom of another tongue we are able to understand many ideas and sentiments conveyed by expressions for which there are no equivalents in the vernacular tongue."

It is well to be able to form our own ideas on nations and governments, instead of getting them with the prejudice, ignorance, and error which accompany translations. We do not consider enough how differently the same events are related and judged according to the nationality of the writer.

The language student wishing to give one not understanding the foreign tongue the different lights of another people in the various fields of science and literature must necessarily translate.

"Translation turns the attention to the nature and mechanism of language; and by the constant comparison of two idioms teaches general and particular grammar. Translation enriches the native vocabulary of the learner, and improves his power of composition in the national tongue, by practice in searching for native words and expressions to translate those of foreign authors. The close attention required in translation tends to engrave in the mind the subjects which foreign authors treat."

As depositories of thought languages are a strong auxiliary in the acquisition of useful knowledge. No physician, chemist, or engineer, no scientific man, in fact, can keep pace with the progress of science and art, who cannot avail himself of the discoveries and improvements made by other nations on the subjects relative to his pursuit. If, then, language study helps to the understanding of character, custom, and civilization of men, if it will aid the child in the understanding of general and particular grammar, if it will help the student to get different lights in the various fields of science, is it not important that children should be taught the modern languages, and that the languages should be taught in the best possible manner? Language study generally is such a feeble auxiliary in the acquisition of useful knowledge because it is not a strongly correlated part of the course of study; and just so long as the grade teacher does not understand the foreign tongue, the correlation must be artificial and a pretense. It is important that our pedagogic

students see the correlation of all our work. This is not possible if they have no conception of the foreign tongue. Language work to them is a subject entirely apart.

## II. In what grade should the study of language begin?

French is generally so badly spoken because its study is begun too late. The younger the child begins the language, the more natural the method, the better the pronunciation—one of the great charms of the French language. Thus far, in the School of Education, foreign language work has begun in the third grade. Why is this grade chosen? Is there a good reason? The child plays, works with clay and wood, paints, and cooks when he first enters the school. Why should the French wait until he enters the third grade, and thus become in his mind a thing apart? Games, rounds, and songs are as natural to a child in one tongue as in the other. Often the mystery accompanying the new sounds gives even more interest to the game.

### OUTLINE OF THE COURSE.

*First grade.*—Games, songs, rounds, play, and making of playhouse; luncheon.—1½ hours per week.

*Second grade.*—Games, rounds, songs; preparation and serving of luncheon; sewing; clay-modeling; blackboard writing by teacher last part of term.—2 hours per week.

*Third grade.*—Games, rounds, songs; games made from reading and writing; reading of simple stories; writing from memory of songs and games.—2½ hours per week.

*Fourth grade.*—Study of fruits in connection with the making of jellies; representation by children of grape-gathering in France, French carnival, French Christmas; songs for French festivals; songs dealing with home life; nationalities in Chicago—clothing and food; excursions to places in Chicago which bear relation to French history; French reading lessons on Marquette, La Salle, and Joliet relative to their stay in Chicago; representations by children of dramatic incidents connected with these French explorers.—2½ hours per week.

*Fifth grade.*—Conversation centering in preparation for luncheon; singing; grammatical text-books made from records of questions asked, and rules arrived at by explanations in third, fourth, and fifth grades; French explorations and settlements; animal life in connection with fur-trading; La Fontaine's fables; reading—extracts from lives of Marquette, La Salle, Joliet; Jesuit relations; Molière, *Le grand Dictionnaire de Cuisine*, d'Alexandre Dumas; representations by the children of dramatic incidents connected with French explorers.—2½ hours per week.

*Sixth grade.*—French patriotic songs; heroic tales of French patriotism; French Swiss life in mountains; La Fayette; Louis XVI. and Marie Antoinette; Versailles; current French history as recorded in French news-

papers of Montreal, New Orleans, Quebec; representation by children of dramatic incidents chosen from their reading.—1½ hours per week.

*Seventh grade.*—French Crusades; Robert le Diable; Guillaume le Conquérant; Renaissance; reading Marguérite de Valois, François I.—1½ hours per week.

*Eighth grade.*—Reading; histoire; La Gaule; Jeanne d'Arc; Michelet; extracts; Lamartine; Victor Hugo; representations of Les Mystères; de Joinville, Froissart; Les Troubadours—Richard Cœur de Lion; Bertrand de Born; Bertrand de Ventadour; Chanson de Roland; Le Saint Graal.—1 hour per week.

## MODEL SCHOOL.

### THE KINDERGARTEN.

BERTHA PAYNE AND MARY HOWELL.

THE work and play will be centered around the activities of home life, especially those that tend toward the securing and preparation of food. Some of the allied activities outside the home will be taken up. The children's attention will be directed to the production, transportation, and delivery of foods, chiefly fruits, vegetables, milk, and eggs. This will be begun by letting the children represent their own homes by building, and in other ways. As occasion demands, excursions will be made to a grocery store, a market garden, a farm, a dairy, and to the docks and freight houses.

*History.*—The homes of the children: Arrangement of rooms, furniture, and equipment of kitchen, pantry, and dining-room, fire making, and cooking. The grocery store, and its means of displaying, selling, and delivering of goods.

*Geography.*—The routes from homes to school, from the school to the park, to the lake, and to the car tracks, depots, and docks. Transportation of fruit, milk, and vegetables, by boat and train. The direction of the farm, the fruit orchards of Michigan, and the routes of boats coming loaded from Michigan.

The lakeshore and what is found there—sand, pebbles, and cobblestones. The pond in the park, and its shores, contrasted with the lake, the best place for sailing toy boats found.

*Nature study.*—This will be of the most informal character. Familiarity with many living creatures, interest in some of the less subtle of life processes, and an attitude of nurture and wonder will be the main things to be established. The children will be given something to do for the pets, and something to do with and for plants. The observation resulting from this working with live things will be used to carry the children farther in investigation.

Care, feeding, and watering of pet squirrels and other pets brought to the school. Watering and weeding the garden planted in the spring quarter by the kindergarten children; gathering, shelling, and cooking of peas and beans. Planting lettuce and radishes. In their walks to the park the children will learn to know the more common birds to be found there, and, if possible, their nesting places and nest building. The effect of heat and light upon plants will be noticed, also the amount of water needed by the house plants each day. In the cooking, some facts will be observed. The amount of juice in one lemon; the dissolving of sugar and salt; the boiling point of water; the composition of steam, and many other points will come under close observation, although they will not be treated experimentally or scientifically. The effort will be rather to see *what* happens and *how*, than *why*.

*Building*.—Houses, rooms, furniture, kitchens in detail, stores, wagons, trains, boats, docks, crates, and boxes.

*Making*.—Shovel for use in sand pile and at lakeshore; toy wagon of cardboard; boat of wood.

*Modeling*.—Marbles, dishes, fruits, and tiles for use as tea stands, animals.

*Painting and drawing*.—Pictures of events seen on the trips and excursions. Illustration of stories. Record of the growth from the seed of radish and lettuce, fruits and vegetables.

*Weaving*.—Mats of manilla and leatherette for the table; lunch basket of raffia. Slat weaving: Fans for visitors, trellis for climbing plants, fence about farm in miniature.

*Folding*.—Napkins for the lunch table; paper hats for a party; baskets for flowers; sailboats, rowboats, and toy furniture.

*Cooking*.—Peas and beans, cereals, candy; making lemonade and fruit salad.

*Songs*.—E. Smith, "Good Morning," "Sunshine Song," "Setting the Table," "Milking Song," *Songs for Little Children*; "The Woodpecker," *Primer Modern Music Series*; "Garden Song," *Songs and Music of Froebel's Mother-Play*.

*Games*.—Dancing game, Cat and Mouse, Hide the Stone, ball games, wandering game, Drop the Handkerchief, The Bees' Market.

*Stories*.—Andersen, "Five Peas in a Pod," "Ida's Flowers," "The Ugly Duckling;" "Fanny's Menagerie," "Lydia Maria Child," *Rainbows for Children*; "Three Beans," "Who Stole the Bird's Nest?" "The Secret," "Cinderella."

*Plays*.—Dramatizations of stories and plays founded on housekeeping and transportation.

## FIRST GRADE.

## GARDENING.

FLORA J. COOKE.

THE children in the School of Education planted part of their garden for the use of the children in the summer model school. These children, in turn, after using what they need, will pickle, can, or in some way preserve the (ripe) crops for the use of the children who planted the garden. They will also prepare and leave a window box in the room which they occupy during the summer. They will plan to have the plants in it blooming when the children return to school in October.

This purpose will demand the following work :

1. *Manual training*.—(a) Preparing or making of box ; partitioning, painting, and making arrangements for draining it ; (b) making of trellises and vine supports ; (c) making of measuring tools ; (d) making of book to leave for the children in the School of Education, in which will be recorded all the facts gained concerning the plants in the window-box.

2. *Science*.—(a) Trip to greenhouse to discover which seeds will germinate and blossom indoors within three months ; (b) study of pictures in books and flower catalogues ; (c) experiments with sand, loam, clay, and conservatory soil to find which soil is best suited to the growth of the plants selected ; (d) study of soil conditions and plants in school garden ; (e) experiments with seeds selected to find out their relation to moisture, heat, and light.

3. *Number*.—Use of simple addition, subtraction, multiplication, and division according to the demands of the work, as follows : (a) estimating and sharing of expense involved in preparing the box ; (b) use of inch, foot, and yard in making of box, trellises, measuring tools, and books ; (c) work in integers, and such simple fractions as halves, fourths, and eighths ; (d) use of ounce and pound weights, and of linear, square, cubic, liquid, and dry measures in work on soil and seeds.

4. *Reading*.—Study of blackboard and printed reading lessons correlated with the work. These may be classified as follows : (a) those giving needed information ; (b) those massing and holding together experiences of the class ; (c) those giving descriptions especially intended to intensify some pleasant experience of the children ; (d) those giving dictation for work connected with manual training ; (e) stories.

5. *Expression*.—Records in painting, writing, modeling, and drawing of development of the plants selected. The form of expression used will be determined by the child as his best medium.

NOTE.—The experimental work, and that in reading, writing, and number, will thus be used as direct helps to the children in their immediate problems, and therefore cannot be more definitely forecast.

#### PREPARATION FOR THE SOCIAL PERIOD.

ELSIE A. WYGANT.

Once each week the children will entertain another group of children. They will plan for these social occasions, at times cooking some article for refreshment, or preparing games, or dramatizing stories.

The last week of the term they will give a party, for which preparation will begin at the opening of the school. The cooking for this occasion will be done by the children. Each child will make, also, a piece of pottery to be used at this party, and taken home at the end of the summer school.

In the pottery work each child will choose the kind of dish he wishes to make. If it is to hold liquid, he will experiment to find a way to make it non-porous. The class will try modeling, turning, and casting clay to get the best form, and they will experiment with various materials and methods of decoration, as paints, colored clay, colored glaze; impressing a pattern and inlaying shells (seen in some Mexican ware). Since time will not permit every child to try the many possible ways, each child will work out one suggestion and give the class the benefit of his experience. A trip will be taken to the Field Museum to see the ceramic exhibit as soon as the work is well begun; another to Burley & Co.'s store, before making the final decoration. Throughout the work the children will be shown specimens and learn the history of the well-known wares.

The general use of reading, writing, number, and art is stated above (3, 4, 5). Possible demands made by this work:

*Reading.*—(a) Receipts for cooking; (b) information in regard to the use of clay; (c) summary of experiments of the class as basis for choice in method of work; (d) direction for making cook books; (e) stories of potters and of famous wares.

*Writing.*—(a) Writing receipts in the cook book; (b) notes to take to parents in regard to trips to be taken; (c) record of individual experience with clay as help to the rest of the class.

*Art.*—(a) Plan of dish the child wishes to make ; (b) plan of design to put upon the dish ; (c) illustration of stories.

*Number.*—(a) Such notation as is needed in setting the table ; (b) use of the inch and the fractions  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{1}{8}$  of an inch in making the cook book ; (c) liquid and dry measure used in the cooking.

*Dramatic Art.*—Telling and dramatizing stories for the social period.

*Literature.*—Story of Palissy ; "Willow Ware," a poem ; story of the Henry II. faience ware ; stories of fairies, nature, and heroism.

#### FRENCH GAMES.

LORLEY A. ASHLÉMAN.

#### COMMENT METTEZ-VOUS LA TABLE ?

Comment mettez-vous la table

A la mode, à la mode,

Comment mettez-vous la table

A la mode de chez nous ?

Nous mettons la nappe comme ça

A la mode, à la mode,

Nous mettons la nappe comme ça

A la mode de chez nous.

Où met-on les assiettes

A la mode, à la mode,

Où met-on les assiettes

A la mode de chez nous ?

Nous les mettons sur la nappe

A la mode, à la mode,

Nous les mettons sur la nappe

A la mode de chez nous.

Et couteau, cuiller, fourchette

A la mode, à la mode,

Et couteau, cuiller, fourchette

A la mode de chez nous ?

Mettons les près des assiettes

A la mode, à la mode,

Mettons les près des assiettes

A la mode de chez nous.

Où met-on les jolies tasses

A la mode, à la mode,

Où met-on les jolies tasses

A la mode de chez nous ?

Mettons les sur les sous-tasses  
 A la mode, à la mode,  
 Mettons les sur les sous-tasses  
 A la mode de chez nous.

Et le verre et la serviette  
 A la mode, à la mode,  
 Et le verre et la serviette  
 A la mode de chez nous ?

On les place à la gauche  
 A la mode, à la mode,  
 On les place à la gauche  
 A la mode de chez nous.

Un enfant chante le premier vers. Les autres enfants reprennent en chœur. Ils mettent les objets indiqués sur la table.

### OLIVÉ BEAUVÉ.

On tire au sort à qui sera Olivé Beauvé et la Voisine. Le reste de la troupe se met en ligne et tout se prennent par la main, Olivé tenant le milieu. La Voisine, placée au bout de la chambre, s'avance directement vers Olivé en dansant et en chantant.

*La Voisine.* Que tu as de jolies cerises !  
 Olivé Beauvé ;  
 Que tu as de jolies cerises !  
 Sur le pont fruitier.

*Olivé Beauvé répond.* Elles sont plus jolies que mes pommes,  
 Olivé Beauvé,  
 Elles sont plus jolies que mes pommes,  
 Sur le pont fruitier.

*La Voisine.* Veux-tu bien m'en donner une,  
 Olivé Beauvé,  
 Veux-tu bien m'en donner une,  
 Sur le pont fruitier ?

*Olivé Beauvé.* Je la donne, si tu l'attrapes,  
 Olivé Beauvé,  
 Je la donne, si tu l'attrapes,  
 Sur le pont fruitier.

A ses mots la Voisine s'élance pour saisir un des enfants qui forment les extrémités de la chaîne, mais Olivé et les joueurs tournent de manière à déjouer ses attaques. Si la Voisine réussit, elle emmène sa capture. Quand elle est parvenue à enlever tous les enfants d'Olivé, elle prend la place de celui-ci, qui devient la Voisine.



## LE CORDONNIER.

Les joueurs forment un cercle en se tenant par les deux bouts d'un mouchoir.

Le cordonnier, choisi par le sort, se place au centre, assis par terre ou à genoux. Si c'est une cordonnière, on lui donne un tabouret.

Tout en simulant les opérations de son métier, le cordonnier dit avec volubilité :

*Le cordonnier.* "Allons, belles, belles, des souliers,  
Que j'en essaie à vos jolis pieds."

Tout le monde, tournant et courant le plus vite possible, lui répond :  
"Essayez ! essayez ! essayez !"

Alors, en étendant les bras, et sans quitter sa place, il tâche d'arrêter une pratique en saisissant le bas d'une robe ou la jambe d'un pantalon.

La personne atteinte donne un gage et devient cordonnier.

## LE CHAT ET LES SOURIS.

Écouter trotter dans le mur  
Les petites souris grises,  
Nous les verrons, soyez en sûr,  
En peu de temps surprises.

En voici une qui veut sortir,  
Minet lui fait la chasse ;  
Petite souris, tu vas mourir,  
Oh, regagne vite ta place.

Les enfants représentent le mur.

## FOURTH GRADE.

THE RELATION OF THE FARM TO THE FOOD SUPPLY OF THE CITY  
GERTRUDE VAN HOESEN.

A TRIP to a large farm will be necessary immediately to find out: (1) what we get from the farm; (2) how the products are prepared before they are shipped; (3) what facilities the farmer must have in order to meet the demands of the city; (4) the care of domestic animals.

On their return, the children will make a special study of four of our principal foods—milk, butter, bread, and meat. This can be done only by means of practical experiments in the cooking-room. The children will examine milk, and make butter and bread for their luncheons.

*Milk.*—(1) How much butter can be made from a gallon of cream? Experiment. (2) How much milk is required to produce a gallon of cream? Experiment. (3) How much milk is required to produce a pound of butter? With the data obtained through experiments, the children will visit a creamery, or large dairy, to investigate this industry, and see how their data compare with those of the dairy.

The study of bread and meat will require excursions to bakeries, flour mills, and some departments of the Stock Yards.

All this work will necessitate a great deal of reading, writing, and number. Records made by the children will be published after the work has been finished.

#### TRANSPORTATION.

ELSIE A. WYGANT.

In connection with the farm work the children will consider the subject of transportation—means of getting the farm products to Chicago.

Two trips will be immediately necessary for this work: (1) To South Water street, to see the supplies brought daily in wagons from the surrounding truck farms, and to the docks at the foot of Michigan avenue. Here, if possible, we shall take a boat to get a view of the harbor and its adaptation to commerce. (2) To railroad yards and shops, where may be seen the different kinds of freight cars, both ready for use and in the various stages of construction; the casting of wheels; making of the parts of an engine and the putting together of these parts; switching station and freight depot. All this may be seen at the Rock Island railroad shops on Wentworth avenue and Forty-seventh street.

Before the second trip is taken, the making of a train will be suggested, each child to construct one car, which, after summer school, is to be his personal property.

The problem of propelling the train will be presented to the class immediately, and if any child is sufficiently interested in mechanics to wish to work out this problem, help and the necessary material will be furnished him for his experiment. (This problem was worked out in electricity by a boy in the fourth grade during the past year. For details see ELEMENTARY SCHOOL

TEACHER, Vol. II, No. 10.) Should such attempts fail, a toy engine will be secured, so that opportunity may be given for play with the train before the close of the school.

In preparation for the trip to the railroad yards the class will divide itself into committees to be responsible for getting certain information necessary to the construction of the cars, as : dimensions of cars, axle, rail; how truck is made, doors made to slide, wheels adjusted to axle, etc. Upon our return, these data will be written out and put into the possession of the class.

The cars will be made to a scale, probably one-fourth inch to a foot. The children will be given books from the library, and working drawings of cars secured from a railroad shop. A complete plan of the car will be made by each one before he goes into the shop for work.

As soon as the planning of the cars is completed, the modes of transportation in other countries, as well as the evolution of our own system, will be considered. This work will be wholly based upon a visit to the Field Museum, where there is an excellent and extensive exhibit.

*Literature.*—In connection with this work, stories of engineers will be told and read. Because the engineer presents a type of hero upon whose accuracy and nerve depend such important results, these stories seem to be especially well adapted to the fourth grade, where love of accuracy and admiration of skill have become a marked characteristic of the children. Cy Warman's "Stories of Engineer Life," *McClure's*, 1900-1901; ".007" and "The Ship That Found Herself," in Kipling's *Day's Work*; "The Pony Engine," in Howells' *Christmas Every Day in the Year*.

Some of the demands for number, reading, and expression which this subject may make are given below :

*Number.*—To gain some conception of the immensity of the world of transportation, in which armies of men are at work, these problems will be presented: (1) building cars on a given scale; (2) capacity of cars; (3) weight of a train; (4) rate of speed; (5) rate of speed today compared with former means of transportation; (6) amount of coal used for a certain distance at a given speed; (7) wages of an engineer; (8) estimate cost of transportation of a given product from the farm under consideration to Chicago; (9) relation to selling price of that product in Chicago; (10) while at freight depot ascertain the number of cars loaded in a day; (11) estimate number of cars loaded in a day in Chicago.

*Reading.*—(1) To gain information about the things seen at the museum ; (2) to gain information necessary to making the train ; (3) stories.

*Writing.*—(1) Recording individual observations for use of class ; (2) writing letters to railroad offices or employees for necessary information.

*Art.*—Drawing, painting, or modeling of things seen on the trips. Illustration of stories.

## FRENCH.

LORLEY ADA ASHLÉMAN.

## PROMENONS-NOUS DANS LES BOIS.

Une des personnes de la réunion fait le rôle du loup, une autre fait celui de la biche ; toutes les autres, se tenant par la robe, font la queue de la biche.

Le loup va se cacher, et tout le monde chante plusieurs fois en se promenant :

Promenons-nous dans les bois  
Pendant que le loup n'y est pas.

*La biche* [*parlé*]. *Loup*, loup, y es-tu ?

*Le loup*. Non . . . .

*Tout le monde*. Promenons nous dans les bois  
Pendant que le loup n'y est pas.

*La biche* [*parlé*]. *Loup*, loup, y es-tu ?

*Le loup*. Oui . . . .

*La biche*. Sauvons-nous ! . . . .

*Le loup*. Je suis loup, loup, qui te mangera.

*La biche*. Je suis bibiche qui me défendra.

*Le loup*. Défends ta queue !

L'enfant qui fait la biche empêche le loup de passer en étendant ses bras, et celui, ou celle qui fait le loup, tâche d'attraper la dernière personne ; quand elle y a réussi, cette personne est séparée de la queue, et quand le loup les a toutes prises, le jeu fini.

## OU EST LA MARGUÉRITE ?

Où est la Marguérite ?

Oh ! gai ! oh ! gai ! oh ! gai !

Où est la Marguérite ?

Oh ! gai, franc cavalier.

Elle est dans son château,

Oh ! gai, etc.

Les murs en sont trop hauts,  
Oh ! gai, etc.

J'en abattrai un' pierre,  
Oh ! gai, etc.

Un' pierre ne suffit pas,  
Oh ! gai, etc.

J'en abattrai deux pierres,  
Oh ! gai, etc.

Deux pierres ne suffisent pas,  
Oh ! gai, etc.

Qu'est-ce qu'il y a dedans ?  
Un petit panier de pain à manger.  
Je vais chercher mon petit  
Couteau pour le couper.

Les enfants se groupent autour d'une jeune fille à genoux, et lui tiennent son tablier levé au-dessus de la tête. Chaque fois que l'enfant chante : "Où est la Marguérite ?" etc., dit : "J'en abattrai un' pierre," il essaye d'emmener une jeune fille du groupe, et ainsi de suite jusqu'à la dernière, qui tient toujours le tablier. Quand le franc chevalier dit : "chercher mon petit couteau," on lâche le tablier, et Marguérite s'enfuit, poursuivie par tout le monde.

#### IL ÉTAIT UN' BERGÈRE.

Il était un' bergère,  
Et ron, ron, ron, petit patapon ;  
Il était un' bergère  
Qui gardait ses moutons,  
Ron, ron,  
Qui gardait ses moutons.

Elle fit un fromage,  
Et ron, ron, ron, petit patapon ;  
Elle fit un fromage  
Du lait de ses moutons,  
Ron, ron,  
Du lait de ses moutons.

Son chaton la regarde,  
 Et ron, ron, ron, petit patapon ;  
 Son chaton la regarde  
 Avec un air glouton,  
     Ron, ron,  
 Avec un air glouton.  
 Si tu y mets la patte,  
 Et ron, ron, ron, petit patapon,  
 Si tu y mets la patte  
 Tu auras du bâton,  
     Ron, ron,  
 Tu auras du bâton.  
 Il n'y mit pas la patte,  
 Et ron, ron, ron, petit patapon ;  
 Il n'y mit pas la patte,  
 Il y mit le menton,  
     Ron, ron,  
 Il y mit le menton.  
 La bergère en colère,  
 Et ron, ron, ron, petit patapon,  
 La bergère en colère  
 A frappé son chaton.

Tous les enfants se mettent à la poursuite de celui qui joue "chaton."

#### LA BOULANGÈRE.

Cette ronde est fort animée et fort gaie. Elle est cependant d'une exécution très simple, et il n'est point nécessaire d'être danseur pour y prendre part.

On commence par former un rond, et l'on tourne en chantant :

La boulangère a des écus,  
 Qui ne lui coûtent guère, [*bis*]  
 Elle en a, car je les ai vus.  
 Vive la boulangère aux écus,  
 Vive la boulangère !

Ici tout le monde s'arrête et se quitte les mains. Un couple (la boulangère et son soutien) se détache de la chaîne et entre dans le cercle. La boulangère s'avance ensuite en sautant vers le danseur qui était placé à sa

droite, de la main droite lui prend la main gauche, tourne avec lui, et revient faire de même avec son soutien, pendant que l'on chante le refrain :

J'ai vu la boulangère  
Aux écus,  
J'ai vu la boulangère.  
Vive la boulangère aux écus,  
Vive la boulangère !

La boulangère fait ainsi tourner tous ses cavaliers, en revenant chaque fois à son soutien. Toutes les filles doivent remplir successivement le rôle de la boulangère.

## EIGHTH GRADE.

KATHARINE M. STILWELL AND JENNIE HALL.

### CUBA.

THE idea upon which the work of the eighth grade will be founded is the industrial relations of countries. This basis has been chosen with the hope of making intelligent the interest that children have in current happenings.

It is planned to keep the work specific by studying the questions as illustrated in the conditions existing between Cuba and the United States. This makes necessary a consideration of recent congressional action in regard to sugar bounty, a study of Cuba's governmental history, of her industrial conditions, of the geography that influences industry, and of the scientific processes of sugar manufacture, together with some discussion of the general question of tariff. For convenience, this matter has been partitioned and labeled History, Geography, Science, Number, and Literature. These subjects are outlined below in slight detail.

*History.*—(1) Congressional action in regard to Cuban reciprocity. (2) Late Cuban war. Rapid story of interference of United States, with a brief study of military movements. (3) Spanish occupation : (a) story of discovery ; (b) people found there ; (c) Spanish characteristics (see literature) ; (a) method of government, in Spain, in Cuba ; (e) feeling between Cuba and Spain ; (f) story of Cuban rebellions. (4) Cuba at present : (a) racial constituents of people ; (b) industries followed ; industrial conditions as compared with those of Chicago, machinery, output, wages, exports and imports ;

(c) Government. (5) General advantages of protection, reciprocity, free trade.

*Geography.*—(1) Cuban products. (a) Topographic picture: plains, uplands, mountains; (b) Climate; (c) Soil: genesis and evolution of island, geologic connection with other islands of Antilles. (2) Rival producers of sugar (mere location of them). (3) Commercial Cuba: (a) situation in regard to Mexico, Central America, North America; routes of travel; (b) harbors: situation, genesis; (c) Important cities: situation, industries, appearance, health.

*Literature.*—A mediæval Spanish story, yet to be chosen, possibly that of *The Cid*. Some study of the customs and materials of that time will be necessary for the sake of correct imagining. As an aid in this direction, the pupils will model in clay illustrative tiles, and will bake, glaze, and frame them, and take them home.

*Science.*—(1) Distribution of sugar in plants: (a) cane, beet, maple, palm; (b) familiar fruits and vegetables that contain sugar. Compare with sugar in milk. (2) Chief commercial sources of sugar, cane and beet. (3) Growth of cane and beet: (a) geographical distribution of each, and other possible regions of production; (b) Climate: its effect upon growth; study of temperature, moisture, length of season and amount of sunshine; (c) Soil: fertilization; (d) compare the climatic conditions necessary for growth with our climatic conditions in Chicago (use pupils' records); (e) growth of sugar beet and sugar cane in the school garden. (4) Process of obtaining sugar from the cane and from the beet: (a) extraction of juice: pressure, diffusion; (b) clarifying; (c) evaporation and crystallization; (d) methods of separating the syrup; (e) refining: purifying, by use of albumen, decolorizing with bone-black; these processes will be illustrated by experiment. (5) Uses of sugar: (a) as a food; (b) sugar cookery. (6) Fermentation of sugar: (a) yeast as a cause of fermentation; (b) products of fermentation and their uses: alcohol, carbon dioxide.

REFERENCES: Thorp, *Outlines of Industrial Chemistry*; Storer and Lindsay, *Elementary Manual of Chemistry*; Halliburton, *Essentials of Chemical Physiology*; Johnston, *Chemistry of Common Life*; Jackman, *Nature Study*; *Universal Encyclopedia*.

*Number.*—Number will be used, not separate from the history, geography, and nature study, but at the time when it will aid in making definite images. It will consist of such problems as occur in measuring the slant and distribution of sunshine, by the use of the skiameter; determining the daily amount of sunshine; measurement of the amount of water in a given rainfall.

As an aid in understanding reciprocity, problems *similar* to the following may be used:

1. Compare the values of the principal products of Cuba. (*Daily News Almanac*.)



2. Find the cost to the planter of producing raw sugar. (Data obtainable from official reports.)
3. What amount is imported into the United States? Find the cost of transportation.
4. What is the import duty on Cuban sugar?
5. The commercial importance of Cuban sugar in United States markets. Compare with (a) domestic cane sugar; (b) domestic beet sugar; (c) total imported sugar.
6. Find the cost of the production of beet sugar. (For data, see *Special Report of the Department of Agriculture*, 1897.)
7. Compare the value of domestic beet sugar with imported beet sugar.
8. Compare the cost of producing beet sugar with the cost of producing cane sugar. Can these sugars compete in our markets on the same basis? Validity of arguments for the protection of beet sugar.
9. What determines the market price of sugar? (a) Compare the tariff on Cuban sugar with that on sugar from other countries; (b) differential tariff; reciprocity.
10. Compare (a) the sugar areas of the world; (b) amount of sugar consumed by different countries; (c) amount produced by different countries.

## PROGRAM.

|                 | Monday.   | Tuesday. | Wednesday. | Thursday.     | Friday.  |
|-----------------|-----------|----------|------------|---------------|----------|
| 1 : 30-2 : 10.. | Hall      | Hall     | Hall       | Hall          | Hall     |
| 2 : 10-2 : 45.. | Hall      | Hall     | Hall       | Hall          | Hall     |
| 2 : 45-2 : 55.. | M u s i c | o r      | g y m      | n a s t i c s |          |
| 2 : 55-3 : 30.. | Stilwell  | Stilwell | Stilwell   | Stilwell      | Stilwell |

NOTE.— Lessons in clay-modeling, manual training, and experiments in science, will be continued through two periods if necessary, the teachers exchanging periods to make up the omitted lesson.

## ANNOUNCEMENTS OF THE UNIVERSITY OF CHICAGO PRESS.

THE University of Chicago Press announces the appearance of two pre-prints from the University of Chicago Decennial Publications, which have been planned in connection with the celebration of the completion of the first ten years of the corporate existence of the institution. In general, the series will set forth and exemplify the material and intellectual growth of the University during its first decade, and will consist of ten volumes, which are now in an advanced stage of preparation. The first two volumes will contain the President's Report to the Board of Trustees on matters of administration. The last eight volumes will consist of separate articles by representative members of the faculty, containing the results of original research in many fields. The lines of study represented in general will be Philosophy and Education, the Political and Social Sciences, History, the Languages and Literatures of the Old and New Testaments, Theology and Church History, the Classical Languages and Archæology, Sanskrit and Comparative Philology, the Romance and Germanic Languages, English, Mathematics, Astronomy, and Astrophysics, and the Physical and Biological Sciences. The documents now ready are *The Velocity of Light*, by Professor Albert A. Michelson (net 25c.) and *On the Text of Chaucer's Parlement of Foules*, by Professor Eleanor Prescott Hammond (net 50c.). Announcement is made of several more extensive contributions in octavo form. Among these may be mentioned Wager's *The Life and Repentaunce of Marie Magdalene*, an old English morality play, edited, with an introduction and notes, by Professor Frederic Ives Carpenter; *Osmotic Pressure in Plants*, a book which will supply the long-felt want by teachers for a treatise on osmotic phenomena adapted to the use of students whose knowledge of chemistry and physics is only elementary; *The Poems of Anne Finch, Countess of Winchelsea*, by Professor Myra Reynolds; *Calculus of Variations*, by Professor Oskar Bolza; and *Light Waves and their Uses*, by Professor Albert A. Michelson.

The University of Chicago Press announces the appearance of No. 6 of *Contributions to Education*, entitled *Some Types of Modern Educational Theory*, by Professor Ella Flagg Young. This contribution does for the various modes of educational reform already in vogue what is done for the educational situation as a whole in the third number of the series, *The Educational Situation*, by Professor John Dewey. Various types in educational standpoints and methods are set forth with reference to fundamental psychological and ethical principles. The paper will be found of great assistance, not only to teachers, but to all interested in finding their way amid the apparent confusion of contemporary efforts toward educational reform. No. 5, entitled *The Child and the Curriculum*, by Professor Dewey, completing the series, will be ready about July 1. The preceding numbers of the series which have recently appeared are *Isolation in the School*, by Professor Young; *Psychology and Social Practice*, by Professor Dewey; *The Educational Situation*, by Professor Dewey; and *Ethics in the School*, by Professor Young. The series, 12mo, net \$1.50; postpaid, \$1.67. THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois.

## A Cooling TONIC

Horsford's Acid Phosphate quenches abnormal thirst, repairs weak nerves, improves appetite, promotes digestion, clears the brain, overcomes exhaustion, and increases the capacity for hard mental and physical labor. Insist on having

**Horsford's  
Acid  
Phosphate**

Horsford's name on every GENUINE package.

FRAGRANT

# SOZODONT

A perfect Dentifrice for the

**Teeth and Mouth**

SOZODONT LIQUID . . . 25c  
SOZODONT TOOTH POWDER . . . 25c  
Large LIQUID and POWDER . . . 75c

**25<sup>c</sup>**

**A dentist writes:**

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

**HALL & RUCKEL, New York.**

## MIENNEN'S BORATED TALCUM



## TOILET POWDER

Delightful After Bathing. A Luxury After Shaving. Beautifies and Preserves the Complexion.

A positive relief for PRICKLY HEAT, CHAFING and SUN-BURN, and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get MIENNEN'S (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it.

Sold everywhere, or mailed for 25 cents. (Sample free.)  
GERHARD MIENNEN CO., Newark, N. J.

# Germ's

develop rapidly in hot weather. Cesspools, closets, cellars, sinks, and all waste-carrying arrangements should be frequently disinfected to prevent sickness.

# Platt's Chlorides

**The Odorless Disinfectant**

A colorless liquid; powerful, safe, and economical. Sold in quart bottles only, by druggists, high-class grocers and house-furnishing dealers. Manufactured by Henry B. Platt, New York.

Improved  
**BOSTON GARTER**  
 THE STANDARD  
 FOR GENTLEMEN  
**ALWAYS EASY**  
 The Name "BOSTON GARTER"  
 is stamped on every  
 loop—  
 The *Velvet Grip*  
 CUSHION  
 BUTTON  
**CLASP**  
 Lies flat to the leg—never  
 Slips, Tears nor Unfastens  
 Sample pair, Silk 50c., Cotton 25c.  
 Mailed on receipt of price.  
 GEO. FROST CO., Makers,  
 Boston, Mass., U.S.A.  
 THE "VELVET GRIP" PATENT HAS BEEN  
 SUSTAINED BY THE U.S. CIRCUIT COURT



**YOU ASK WHY**  
*Kuyler's*  
**COCOA CHOCOLATE**  
 are **THE BEST**

**B**est beans only are used.  
**E**xtra care exercised in blending.  
**C**ocoa shells and dirt are removed.  
**A**dulterations not permitted.  
**U**se of most improved machinery.  
**S**tandard of merit - our watchword.  
**E**ndless watchfulness during manufacture.

*Cost no more than others.*  
*Once tried - always used.*  
**GROCERS EVERYWHERE.**

**A Wonderful Material!**  
**PANTASOTE**  
**Waterproof—Greaseproof—Stainproof**  
 Also Germproof and FIREPROOF! Unlike other leather  
 substitutes, it contains no cellulose, rubber or other danger-  
 ous and objectionable sub-  
 stances, and is also en-  
 tirely odorless.  
 Pantasote does not peel  
 or crack, is not affected by  
 heat, cold or climate.  
 Looks like Morocco leath-  
 er, wears better and costs  
 half. Tested nine years  
 with un-  
 qualified  
 success.  
 Made in  
 plain leath-  
 er grains or  
 richly em-  
 bossed de-  
 signs, all  
 standard  
 colors.  
 A Piece  
 18 x 18 in.  
 for 25 cents  
 in stamps.  
 Free sample  
 12 x 6 in. for  
 ac. stamp and  
 your uphol-  
 sterer's ad-  
 dress.



**Awarded GOLD MEDAL at Buffalo.**  
**CAUTION**—There are dangerous and worthless imitations; genu-  
 ine has Pantasote stamped on goods.  
**PANTASOTE CO., Dept. Z, 11 Broadway, New York.**

## Big Four Route

FROM  
**CHICAGO**  
 TO

**Indianapolis, Cincinnati, Louisville,**  
 the  
**South and Southeast.**

**DIRECT LINE TO**  
**Asheville, N. C., and Florida.**

**THE SCENIC LINE TO**  
**Virginia Hot Springs and Washington, D.C.**  
 via the Picturesque  
**CHESAPEAKE & OHIO R'Y.**

**W. J. LYNCH, G.P. & T.A.    W. P. DEPPE, Ass't G.P. & T.A.**

**CINCINNATI, O.**

**J. C. TUCKER, G.N.A.    234 Clark St., CHICAGO**

# The Dr. Deimel Underwear

Many people wear wool next to the body, during the summer, and wonder why they are uncomfortable—why they have prickly heat and skin eruptions. The Dr. Deimel Underwear always insures a healthy skin and a comfortable body.

*Booklet, mailed free, will tell you all about it*

**The Deimel Linen-Mesh Co., 491 Broadway, New York**

SAN FRANCISCO, CAL.  
6th floor Hayward Building

WASHINGTON, D. C.  
728 15th St., N. W.

MONTREAL, CAN.  
2202 St. Catherine St.

LONDON, E. C., ENG.  
10-12 Broad St.



The Dr. Deimel Dress shields are the best made; can be easily washed; are odorless. We guarantee every pair.

All genuine Dr. Deimel garments bear this trade-mark

**MONON TRAINS FOR**  
La Fayette  
W. Baden Spr.  
Fr. Lick Spr.  
Louisville  
Mammoth Cave  
Chattanooga  
New Orleans  
All Southern Cities.

**ANYTIME**

**MONON TRAINS FOR**  
Indianapolis  
Dayton  
Cincinnati  
Asheville  
Atlanta  
Jacksonville  
St. Augustine  
Tampa  
Havana.

You travel between  
**CHICAGO  
LOUISVILLE  
INDIANAPOLIS  
AND  
CINCINNATI**  
GO VIA

**MONON ROUTE**

**AND C.H.&D Rwy.**

LUXURIOUS PARLOR AND DINING CARS BY DAY.  
PALACE SLEEPING AND COMPARTMENT CARS BY NIGHT.  
6 TRAINS DAILY BETWEEN CHICAGO AND THE OHIO RIVER

W.H. MOORE, FRANK J. REED, GENL. MANAGERS, CHAS. ROCKWELL, PRES. & GENL. MGR., CHICAGO. TRAFF. MGR.

*REVERSIBLE*  
**"Linene"**  
*Collars & Cuffs.*

MANY ADVANTAGES.

Perfect in fit, never ragged or uncomfortable. Very convenient, stylish, economical. Made of fine cloth and exactly resemble linen goods. Turn down collars are reversible and give double service.

NO LAUNDRY WORK.

When soiled, discard. Ten collars or five pairs of cuffs, 25c. By mail, 30c. Send 6c. in U. S. stamps for sample collar or pair of cuffs. Name size and style.

REVERSIBLE COLLAR CO., Dept. 12, Boston.



# HARTFORD TYPEWRITERS

ARE SIMPLE, SERVICEABLE  
AND DURABLE.

MADE WITH EITHER SINGLE OR  
DOUBLE KEYBOARD

**PRICE, \$60.**

CATALOGUES ON APPLICATION.

**THE HARTFORD TYPEWRITER CO.,**

**426 Capitol Ave., HARTFORD, CONN.**



SHIFT-KEY

NUMBER 2



Never have to remove a paper to examine it when you file by the "SHANNON" (genuine) Arch System—just push the papers on top of the one you want over back on the arches. No lost or misplaced letters. Every paper, no matter how small, has its place on the arches, and cannot get lost between other papers. If you want to take a paper out, you never disturb any others. It's the safest method there is. Send for Cat. 3003

**Yawman & Erbe Mfg. Co.,**  
ROCHESTER, N. Y.

N. Y., Chi., San F., Boston, Phila. and seven other cities.

## Our Engraving

Of Wedding Stationery has something to commend itself to people of taste and refinement over the common, ordinary kind.

## Our Prices

Are as low as work of our standard can be named.

We send you finely engraved plate and 100 of latest style visiting cards for \$1.50.

Monogram and initial work a specialty.

High class correspondence papers.

**S. D. Childs & Co.**

140-142 Monroe St.

Established 1837

CHICAGO.



A little disc the size of a silver dime, costing less than two cents, makes one ounce of Pure Ink. Economical, Durable, Acid-Proof. Will not mould or corrode the Pen.

Highly recommended by school-teachers, banks, business houses, and Government officials.

**THE WIZARD INK TABLET**

Made in

5 Colors.

Sample box of 8 tablets

and a gold-finished fountain pen

worth \$1.00, sent postpaid on

receipt of 50c. Single box, 8 tablets,

10c. On sale at all leading druggists and sta-

tioners. Agents wanted. Write for sample. Address

**The Thomas A. Edison Jr. Chemical Co.**

31-33 Stone Street, NEW YORK, N. Y.

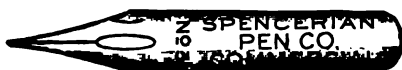




# SPENCERIAN

The Standard of  
Excellence for  
over forty years

## STEEL PENS



Select a pen for your writing from  
a sample card of special numbers for cor-  
respondence. 12 pens for 10c., postpaid.

**SPENCERIAN PEN CO.**

349 Broadway,

NEW YORK CITY

"AFTER ALL **CARTER'S INK** IS THE BEST"



**An Old Bookkeeper is Discriminating**

Better take his advice and use CARTER'S  
Send for booklet "Inklings"—Free  
**THE CARTER'S INK CO. - BOSTON, MASS.**



## A LESSON IN PALMISTRY.

(FROM THE HAND OF ANY SWAN  
FOUNTAIN PEN USER)

This palm reveals a man who  
is desirous of having everything the  
best. He is one of excellent judg-  
ment, and knows when he has a  
"good thing in hand."

The dark, heavy line through  
the center of the palm indicates  
ease and comfort in writing.

FOR SALE AT  
**THE EXCLUSIVE PEN STORE**  
96 STATE STREET, (STEWART BUILDING) CHICAGO  
**MABIE, TODD & BARD**

THE WORLD'S LARGEST  
**Corporations**

**Railroads and**

**Manufacturers**

Use **SMITH PREMIER**  
**TYPEWRITERS**

Because they possess those sterling features  
that make them the most economical to  
own. Good work all the time.

The Smith Premier  
Typewriter Co.,  
Syracuse, N. Y.,  
U. S. A.

**Grand Prize,**  
**Paris 1900...**

**Highest Award**  
**Possible.....**



THE BEST  
SEND FOR CATALOGUE

FIFTY  
STYLES

TRADE MARK  
REGISTERED

**PAUL E. WIRT**  
**FOUNTAIN PEN**

ALL DEALERS OR ADDRESS BLOOMSBURG, PA.

**W**HY not use a clean Fountain  
Pen, one that will write and  
write always, without skipping,  
blotting, or scratching?

The above Fountain Pen is and  
has been sold on its merits all over  
the world for sixteen years, and is  
unconditionally guaranteed.



THE  
**Leading Typewriter**  
**OF THE WORLD**

The Only **POLYGLOT**—Using a **HUNDRED** Type Shuttles in **TWENTY-SIX**  
Languages. All immediately interchangeable. Now adds to its Conceded Perfec-  
tions (Perfect Alignment, Impression, etc.).

Each day has its cares  
Ἐκαστὴ ἡμέρα ἵστί κακίαι  
Each day has its cares  
Αρκετον τη ἡμερα ἡ κακι  
Each day has its cares

Each day has its cares  
Во урно невемся о сачъ  
Basta al dia su afon  
EACH DAY HAS ITS CARES  
Ein jeder Tag hat seine

**A CROWNING GLORY**

The Best **MANIFOLDER**, where **QUALITY** and **QUANTITY** are desired



THE  
**HAMMOND**  
**TYPE-**  
**WRITER**  
**COMPANY**

69th to 70th Street, East River  
NEW YORK, N. Y.





"THE NAME IS EVERYTHING."

# Esterbrook

on a pen is an absolute  
guarantee of its excellence

Probate No. 313 is a popular stub pen, with medium points. Over 150 varieties of other styles to suit every purpose. All stationers have them. Accept no substitute.



**THE ESTERBROOK STEEL PEN CO.**

Works, Camden, N. J. 26 John Street, N. Y.

## Remington Typewriters



**Stand the Test of Time**

## A POINT IN THE RIGHT

DIXON'S SM No 2

### DIRECTION

Is our advice to try

## Dixon's American Graphite Pencils.

The satisfaction of using a pencil that always does what is expected of it, sharpens to a fine point, and in which the lead doesn't break, either in sharpening or use, is not one of the least comforts to a busy person.

**Dixon's Leads Don't Break.**

Their grades never vary.  
Pencils for all uses,

each one bearing our trademark, the best of its kind.

*If not sold by your dealer, send us 10c. for samples worth double.*

**Joseph Dixon Crucible Co.,**  
Jersey City, N. J.



"I couldn't do without those handy new devices now," said an expert operator after obtaining a

## NEW DENSMORE



Our free Booklet illustrates the Ball Bearings, Back Spacer, Justifier, Paper Regulator, etc.

**Denmore Typewriter Co.,**  
309 Broadway, New York.

# R. R. Donnelley & Sons Co.

The Lakeside Press

## PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



## Muskoka—"Clear Sky Land"

Is an Indian word that fittingly describes one of the most delightful spots for a summer outing on the American continent.

## The New "Royal Muskoka" Hotel

IS UNSURPASSED FOR LOCATION.

Without a rival in the perfection of its appointments and the excellence of its cuisine.

Descriptive literature, time tables, etc., can be had on application to

**GEO. W. VAUX,**

Asst. Gen. Pass. and Tkt. Agt.,

**GRAND TRUNK  
RAILWAY SYSTEM**

917 Merchants Loan and Trust  
Building,

135 Adams Street,

**CHICAGO, ILLINOIS.**



"ROYAL MUSKOKA" HOTEL.

## Correspondence Instruction

credit is given so that the time of required residence for the Bachelor and Doctor's degrees is materially shortened. The work offered includes courses in **Theology, Philosophy, History, Pedagogy, Sociology, the Languages, Literature, and Mathematics.**

Circulars giving detailed information may be had by addressing

**THE CORRESPONDENCE-STUDY DEPARTMENT,**

**The University of Chicago, Chicago, Ill.**

The University of Chicago offers advantages for non-resident students through its Correspondence-Study Department which cannot be surpassed. Degrees are not granted upon work done wholly by correspondence, but when the courses are completed at the University,

RIDE A COCKHORSE TO BANBURY CROSS,  
TO SEE A FINE LADY UPON A WHITE HORSE,  
RINGS ON HER FINGERS, AND BELLS ON HER TOES,  
SHE SHALL HAVE MUSIC WHEREVER SHE GOES.



SO SINGS THE FOND MOTHER IN NURSERY RHYME  
TO HER GLAD INFANT, THE WHILE KEEPING TIME;  
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN  
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.  
THROUGH  
**MRS. WINSLOW'S SOOTHING SYRUP**  
OVER FIFTY YEARS SOLD  
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD.

**Spring & Summer**  
24 Years the  
Standard of Excellence

**Jaeger**  
Porous  
Woolens  
Only True  
Sanitary Underwear

**SPECIAL LIGHT WEIGHTS FOR SUMMER.**

ILLUSTRATED CATALOGUE FREE

NEW YORK: {16 West 23d Street  
{155-157 Broadway  
BROOKLYN: 604 Fulton Street  
BOSTON: 230-232 Boylston Street  
PHILADELPHIA: 924 Chestnut Street  
CHICAGO: 82 State Street

**Agents in all Principal Cities.**

**Order Your**  
**STATIONERY**  
: : **BY MAIL** : :

**The University of Chicago Press**

has exceptional facilities for filling mail orders  
for the latest styles of stationery and other  
fine papers : : : : : : : :

**An Excellent Line of Whiting's Standard  
Fine Writing Papers**

in all the latest styles, kept regularly in stock, both in  
boxes and by the quire

**Whiting's Number One Quality and  
Standard Linen**

are especially recommended

**Monogram Embossed Paper and Pads of  
all Sizes**

*Orders taken for Fine Engraved  
Calling Cards at Reasonable Prices*

**THE UNIVERSITY OF CHICAGO PRESS**  
Retail Department : : CHICAGO, ILLINOIS

THE  
WABASH  
IS  
THE  
MODEL  
LINE



**Vacation Trips**

Do you expect to treat yourself to a  
vacation trip this summer? If so,  
write for a copy of the

**Wabash Summer Tour Book**

giving a great variety of attractive  
tours with cost of tickets and other  
valuable information. Write us  
about any trip you may have in  
mind. It's our business to help  
those who travel. : : : : :

C. S. Crane, G. P. & T. A., F. A. Palmer, A. G. P. A.,  
St. Louis, Mo. 97 Adams St., Chicago

Make Photos at Night  
with



**The Paper for Printing by Gaslight**

If your dealer cannot supply you send 20¢ for one dozen 4x5 size with developer.

**THE ANTHONY & SCOVILL CO.**

122-124 Fifth Avenue 17th St. N.Y. 55s Atlas Block, Randolph St. Wabash Ave. CHICAGO  
NEW YORK CHICAGO



**THE ALTON'S ENGINEER.**

IF YOU WILL SEND THE ADDRESS OF A PERSON WHO, WITHIN A YEAR, WILL HAVE USE FOR THE CHICAGO & ALTON RAILWAY



(TERRITORY COVERED OUTLINED IN ABOVE MAP), WE WILL MAIL TO YOU A PICTURE, 4 1/4 X 3 INCHES, OF THE ALTON'S ENGINEER. IF, IN ADDITION, YOU WILL TELL US IN WHAT PUBLICATION YOU READ THIS ADVERTISEMENT, WE WILL SEND TO YOU A PAMPHLET ABOUT THE BIGGEST CAMERA IN THE WORLD.

GEO. J. CHARLTON,

GENERAL PASSENGER AGENT, CHICAGO & ALTON RAILWAY, CHICAGO, ILLINOIS.

"YOU CATCH THEM EVERY TIME"



**The GOERZ LENS is the fastest**  
Lens in the World.

That's a challenge and a fact demonstrated beyond dispute.

**Anastigmatic Guaranteed Accurate**

Though some lenses possess larger relative opening, actual practice demonstrates that

**The GOERZ LENS is the fastest**  
None "Just as good."

For prices, circulars, etc., apply to your dealer or  
C. P. Goerz Optical Works, Room 6, 52 E. Union Sq., N.Y.



**ORCHESTRA**

Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, illustrated, mailed free. It's a money-saver.

LYON & HEALY,

38 Adams St., Chicago, Ill.

The World's Largest Music House. Sells "Everything Known in Music."

**PIANO Do You Want a Genuine Bargain in a Piano?**

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Upright beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent instrument at \$250, \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

**LYON & HEALY**

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



**Rare Old Violins**

Largest and finest collection on this continent. Fine catalogue free containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Sole instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

**LYON & HEALY,** 38 Adams St. Chicago.



## A Field Glass Tourist

Is an experienced tourist, one who has learned that a good Field Glass is the extra sense that brings the out-of-reach into easy view. It is the same with the Sportsman, Yachtsman, Ranchman, Residents at seaside or mountain.

## Bausch & Lomb-Zeiss STEREO Binocular Glasses

Are the Best in the World, used by the armies and navies of the great nations. Small, Light, Enormous Field and Power. Bausch and Lomb Binoculars stand next. Cost less.

AT ALL DEALERS

BOOKLET U. P. TELLS WHY

**Bausch & Lomb Optical Co.**

New York

ROCHESTER, N. Y.

Chicago

## VOLUTE



## THE PERFECT PHOTO SHUTTER

Fits Any Lens      Precise as a Watch

This new shutter does anything the photographer can ask of it automatically; any desired exposure from Express Trains, Athletes, and Race Horses to Time Exposures. The Smallest, Best Made, Most Scientific. All working parts enclosed. Volute Shutter and Bausch & Lomb-Zeiss Anastigmat or Plastigmat Lens is an ideal combination for your camera.

Send for descriptive Booklet U. P.

**Bausch & Lomb Optical Co.,**  
New York      ROCHESTER, N. Y.      Chicago

## CROWN PIANOS

*Noble in Tone  
Chaste in Appearance  
Durability Unquestioned*

**GEO. P. BENT**  
Manufacturer      Chicago



STYLE 4404.

## Came with the 20th Century

and is the culmination of the combined skill of artist and artisan, directed to this end for nearly fifty years. It is especially designed for use in chapels small churches, etc. We have many styles and supply all needs.

**Mason & Hamlin Co.**

BOSTON.

NEW YORK.

CHICAGO.



Comparing the sizes of toilet soaps with Ivory Soap the Ivory Soap should cost four times as much as the toilet soaps. It is exactly the reverse, and when you buy Ivory Soap you pay about one-fourth as much for it. The best people use Ivory Soap for their toilet and bath, because of its purity.

**IT FLOATS.**

Copyright 1899 by The Procter & Gamble Co. Cincinnati



# **BUFFALO LITHIA WATER** In All Forms of Bright's Disease, Albuminuria of Pregnancy, Uric Acid Diathesis, Gout, Rheumatism, Lithæmia, Renal Calculi, and Stone of the Bladder, Etc., Etc.

**Dr. George Ben Johnston**, *Richmond, Va., ex-President Medical Society of Virginia and Professor of Gynecology and Abdominal Surgery, Medical College of Virginia:* "IF I WERE ASKED WHAT MINERAL WATER HAS THE WIDEST RANGE OF USEFULNESS, I WOULD UNHESITATINGLY ANSWER BUFFALO LITHIA. It is a most valuable remedy in many obscure and stubborn conditions which, at best, yield slowly, if at all, to drugs. In URIC ACID DIATHESIS, GOUT, RHEUMATISM, LITHÆMIA, and the like, its beneficial effects are prompt and lasting.

"Almost any case of Pyelitis and Cystitis will be alleviated by it and many cured.

"I have had evidence of the undoubted DISINTEGRATING, SOLVENT, and ELIMINATING POWERS of this water IN RENAL CALCULUS, and have known its long continued use to permanently break up the gravel-forming habit.

"It is an agent of great value in the treatment of the Albuminuria of Pregnancy, and is an excellent diuretic in Scariatina and Typhoid Fever. In all forms of BRIGHT'S DISEASE, except those hopelessly advanced, its good effects are pronounced. I believe it has been the means of prolonging many lives in this trouble."

**John V. Shoemaker, M. D., LL. D.,** *Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc., in the New York Medical Journal, June 22, 1899:* "The **BUFFALO LITHIA WATER** is DOUBLY EFFICIENT in Rheumatism and Gout. It dissolves Uric Acid and Phosphatic sediments, as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the Kidneys and Bladder. The intense suffering produced by Stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination. Unquestionably, although the speedy removal of Uric Acid and other products of faulty tissue change is of conspicuous benefit, yet to PREVENT their formation is a service still more important. This service is performed by the **BUFFALO LITHIA WATER** when it corrects those digestive failures which are responsible for the production of deleterious materials."

**James L. Cabell, M. D., A. M., LL. D.,** *Formerly Professor of Physiology and Surgery in the Medical Department of the University of Virginia, and President of the National Board of Health, says:* "**BUFFALO LITHIA WATER** in Uric Acid Diathesis is a well-known therapeutic resource. It should be recognized by the profession as an article of Materia Medica."

**Dr. J. W. Mallet**, *Professor of Chemistry, University of Virginia.* (Extract from report of analysis of Calculi discharged by patients under the action of **BUFFALO LITHIA WATER** Spring No. 2):

"It seems on the whole probable that the action of the water is PRIMARILY and MAINLY upon URIC ACID and the URATES, but when these constituents occur along with and as cementing matter to Phosphatic or Oxalic Calculus materials, the latter may be so detached and broken down as to disintegrate the Calculus as a whole in these cases, also thus admitting of Urethral discharge."

Spring No. 1 is both a NERVE and a BLOOD TONIC, and in PALE, FEEBLE, and ANÆMIC SUBJECTS is to be preferred. In the absence of these symptoms No. 2 is to be preferred.

**BUFFALO LITHIA WATER** is for sale by Grocers and Druggists generally.

Testimonials which defy all imputation or questions sent to any address.

**PROPRIETOR - BUFFALO LITHIA SPRINGS - VIRGINIA**

THE FINEST COCOA IN THE WORLD



# BAKER'S BREAKFAST COCOA

*has the largest sale in the United States, because it yields the most and best for the money*

NOTE THE TRADE-MARK ON EVERY CAN

**WALTER BAKER & CO. LTD.**

ESTABLISHED 1760 W. DORCHESTER, MASS.

1852-1902

# WEBER PIANOS

AND

**MME. EMMA CALVÉ**

*"Among all the instruments of the renowned makers, here and abroad, I today prefer the Weber because of its sympathetic tone quality."*

Weber Pianos have been admired and indorsed by great artists and the musical public for half a century.

**WEBER WAREROOMS**

Fifth Avenue, cor. 16th Street, New York  
266 Wabash Avenue, - - Chicago

**Great fun for 25 cents**

The children can build their own city by using the

# SPOTLESS TOWN RUBBER STAMPS



32 SEPARATE  
STAMPS

**USE SAPOLIO**

SEND  
FOR  
CIRCULAR

Address enclosing 25 cents

**SAPOLIO New York**

Teaches them drawing. keeps them quiet.  
Pleases them. makes them ingenious

Every box contains information about the  
\$50. prize offer for the series of contests

have been established over 30 YEARS. By our system  
payments every family in moderate circumstances can see



VOLUME III

NUMBER 2

# The Elementary School Teacher



OCTOBER, 1902

Chicago: The University of Chicago Press  
Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1902, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second class matter, July 15, 1901



*Pears' Soap is matchless
for the complexion.*

The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

CONTENTS FOR OCTOBER, 1902

| | | |
|--|---------------------------|-----|
| THE SCHOOL AS SOCIAL CENTER | JOHN DEWEY | 73 |
| LITERATURE IN THE ELEMENTARY SCHOOL. I | PORTER LANDER MACCLINTOCK | 87 |
| HORTICULTURE IN THE ELEMENTARY SCHOOL. I | DAVID FELMLEY | 96 |
| ENGLISH IN ELEMENTARY SCHOOLS. I | E. H. LEWIS | 103 |
| NATURAL SCIENCE | WILBUR S. JACKMAN | 107 |
| GEOGRAPHY. I | ZONIA BABER | 110 |
| HISTORY IN THE ELEMENTARY SCHOOL | EMILY J. RICE | 117 |
| MATHEMATICS IN THE PROFESSIONAL SCHOOL. I | GEORGE W. MYERS | 121 |
| HOME ECONOMICS | ALICE P. NORTON | 128 |
| OUTLINE OF COURSE FOR TRAINING KINDERGARTNERS | BERTHA PAYNE | 132 |
| BOOK REVIEWS: | | |
| <i>Kemp</i> : History of Education, NATHANIEL BUTLER, 135; <i>West</i> : A Latin Grammar for Schools, GERTRUDE PARKER DINGEE, 137. | | |
| EDITORIAL | | 139 |

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

THE UNIVERSITY OF CHICAGO PRESS,
CHICAGO, ILLINOIS

APPLICATION MADE FOR ENTRY AS SECOND-CLASS MAIL MATTER.
COPYRIGHTED, 1902, BY THE UNIVERSITY OF CHICAGO.

The Elementary School Record

A SERIES OF MONOGRAPHS ON THE ELEMENTARY
SCHOOL OF THE PEDAGOGICAL DEPARTMENT OF THE
UNIVERSITY OF CHICAGO

Edited by JOHN DEWEY and LAURA L. RUNYON

The object of the *Elementary School Record* is to make possible for use in other schools the details of subject-matter and method in the application of modern psychology in education, as demonstrated by the University Elementary School. The plan includes a series of nine monographs, each number containing a record of work done by a group in the school, and also an article concerning the work of one department in all grades.

The series, royal 8vo, cloth,
net, \$1.75; postpaid, \$1.89.

The University of Chicago Press
CHICAGO, ILLINOIS

SOME IMPORTANT BOOKS ON EDUCATION

The School and Society. By JOHN DEWEY. (Third edition.) Supplemented by a statement of the Laboratory School of the University of Chicago. 130 pp., 12mo, cloth. \$1.00.

The Prospects of the Small College. By PRESIDENT WILLIAM R. HARPER. 50 pp., 12mo, paper. *Net*, \$0.25.

Report of the Educational Commission of the City of Chicago. The commission was appointed by HON. CARTER H. HARRISON, January 19, 1898, and the report is edited by PRESIDENT WILLIAM R. HARPER. (Second edition.) 250 pp., royal 8vo, paper. *Net*, \$1.00.

The Education of Business-Men. A View of the Organization and Courses of Study in Commercial High Schools of Europe. By EDMUND J. JAMES. 232 pp., 8vo, paper. *Net*, \$0.50.

The Philosophy of the Humanities. By THOMAS FITZ-HUGH. 63 pp., royal 8vo, paper. *Net*, \$0.50.

FOR SALE BY BOOKDEALERS OR BY THE PUBLISHERS
THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois

NEW--Just What You Need for Best Results

MORSE'S EDUCATIONAL SYSTEM and the **NATURAL MOVEMENT METHOD** of Practical Writing

THE MORSE COMPANY

96 Fifth Ave., New York.

Boston: 8 Beacon St. Chicago: 195 Wabash Ave.

Thoroughly unique in character, with many original, valuable features.

The right slant for best results. Round letters and round turns. Elimination of all unnecessary lines. Legibility and Rapidity. Correlated copy material, carefully graded and illustrated. System and method combined.

20 to 28 Adjustable Copy Slips in back of each book for elementary work, giving more than double the copy material of other books. Eight-book series.

Price, per dozen, 72 cents
Liberal discount for introduction.

THE UNIVERSITY OF CHICAGO **Decennial Publications**

This series was planned in connection with the celebration of the completion of the first ten years of the educational work of the University of Chicago, the purpose being to set forth and exemplify the material and intellectual growth of the University during its first decade.

The following preprints from the quarto series are ready:

The Velocity of Light, by Albert A. Michelson (25 cents, *net*)

On the Text of Chaucer's Parlement of Foules, by Eleanor Prescott Hammond (50 cents, *net*)

Concerning the Geodesic Curvature and the Isoperimetric Problem on a Given Surface, and Proof of the Sufficiency of Jacobi's Condition for a Permanent Sign of the Second Variation in the So-called Isoperimetric Problem, by Oskar Bolza (bound together, 25 cents, *net*)

On the Production and Suppression of Muscular Twitchings and Hypersensitiveness of the Skin by Electrolytes, by Jacques Loeb (25 cents, *net*)

The Treatment of Nature in the Works of Nikolaus Lenau, by Camillo von Klenze (75 cents, *net*)

The Physical Characters of the Indians of Southern Mexico, by Frederick Starr (75 cents, *net*)

Credit, by J. Laurence Laughlin (50 cents, *net*)

Formula for Determining the Weight of the Central Nervous System of the Frog from the Weight and Length of the Entire Body, by Henry H. Donaldson (25 cents, *net*)

Concerning the Modern German Relatives, Das and Was, in Clauses Dependent upon Substantivized Adjectives, by Starr Willard Cutting (25 cents, *net*)

Of the Octavo Series there are ready:

The Life and Repentance of Marie Magdalene, by Lewis Wager, 1767, edited with an Introduction, Notes, and Glossarial Index, by Frederic Ives Carpenter, \$1.00, *net*

The Second Bank of the United States, by Ralph C. H. Catterall. (Ready October 20)

FOR SALE BY DEALERS OR THE PUBLISHERS

The University of Chicago Press :: Chicago, Illinois

Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each in cash for copies of this number delivered in Chicago. We also offer 20c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers **The University of Chicago Press, Chicago, Illinois**

THE UNIVERSITY OF CHICAGO PRESS

Contributions to Education

By JOHN DEWEY, Professor and Head of Department of Philosophy of the University of Chicago, and ELLA FLAGG YOUNG, Professor of Education in the University of Chicago

THE series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy.

No. 1. ISOLATION IN THE SCHOOL - By ELLA FLAGG YOUNG

This contribution discusses the vexed question of school organization in the light of recent psychological and ethical thought, treating the school as an institution among other institutions. It shows the necessity of co-operation and interaction among the various parts that make it up, more specifically the teaching and supervising factors. It is anticipated that the book will give a point of departure for future discussions.

12mo, paper, net, 50 cents postpaid, 54 cents

No. 2. PSYCHOLOGY AND SOCIAL PRACTICE - By JOHN DEWEY

This contribution shows why psychology is necessary to the teacher in doing his work in social and moral directions. In distinction from those who oppose the psychological and the social ideas of education to each other, it is shown how necessary they are to each other.

12mo, paper, net, 25 cents postpaid, 27 cents

No. 3. THE EDUCATIONAL SITUATION - By JOHN DEWEY

This contribution reviews the entire educational situation, taking up, first, the Elementary School; second, the High School; and third, the College, showing how conditions due to their origin and past history conflict with present demands and responsibilities and the nature of the readjustment thus made necessary.

12mo, paper, net, 50 cents postpaid, 53 cents

No. 4. ETHICS IN THE SCHOOL - By ELLA FLAGG YOUNG

This contribution sets forth some of the working conditions, especially as to the relation of teacher and pupil, necessary to enable the school to perform its proper function—the formation of character.

12mo, paper, net, 25 cents postpaid, 27 cents

No. 5. THE CHILD AND THE CURRICULUM - By JOHN DEWEY

This contribution shows that the value of psychology is not limited to the matter of methods of teaching, but affects the subject as a whole.

12mo, paper, net, 25 cents postpaid, 28 cents

No. 5. TYPES OF MODERN EDUCATIONAL THEORY - By ELLA FLAGG YOUNG

This contribution does for the various modes of educational reform already in vogue what is done in the third number of the series for the educational situation as a whole. The various types of school standpoint and method are set forth and compared with reference to the fundamental psychological and ethical principles.

12mo, paper, net, 25 cents postpaid, 28 cents

Six numbers. 12mo, paper Price for series on one order to
same address, net, \$1.50 postpaid, \$1.67

For sale by dealers or

The University of Chicago Press, Chicago, Illinois

Dining Cars Service à la Carte

ROSES are always on the tables,
and delicate china, glass and
silver add to the pleasure of a dinner
well cooked and daintily served

All the Season's Delicacies
at Very Moderate Prices

**Burlington
Route**

OUR 8,000 miles of rail-
road reach out from
Chicago, Peoria and
St. Louis to all the important
cities in the west and north-
west such as

**ST. PAUL
MINNEAPOLIS
OMAHA
KANSAS CITY
DENVER**

If you are going to any of
these places or to the Pacific
coast, kindly let me send you
time tables and other informa-
tion about our train service.

P. S. EUSTIS,
Gen'l Pass. Agt., C. B. & Q. R. R.,
CHICAGO, ILL.

CLYDE LINE



ONLY DIRECT WATER ROUTE BETWEEN

NEW YORK · BOSTON

AND

CHARLESTON · S.C. · JACKSONVILLE ·

FLORIDA

W. P. CLYDE & CO. GENL. AGTS. Theo. G. Eger G.M. 19 STATE ST. N.Y.



THE ALTON'S ENGINEER.
IF YOU WILL SEND THE ADDRESS
OF A PERSON WHO, WITHIN A YEAR,
WILL HAVE USE FOR THE CHICAGO
& ALTON RAILWAY



(TERRITORY COVERED OUTLINED IN
 ABOVE MAP), WE WILL MAIL TO YOU
 A PICTURE, 4 1/2 X 3 INCHES, OF THE
 ALTON'S ENGINEER. IF, IN ADDI-
 TION, YOU WILL TELL US IN WHAT
 PUBLICATION YOU READ THIS AD-
 VERTISEMENT, WE WILL SEND TO
 YOU A PAMPHLET ABOUT THE BIG-
 GEST CAMERA IN THE WORLD.

GEO. J. CHARLTON,
GENERAL PASSENGER AGENT, CHICAGO &
ALTON RAILWAY,
CHICAGO, ILLINOIS.

Big Four Route

FROM
CHICAGO
TO

Indianapolis, Cincinnati, Louisville,
the
South and Southeast.

DIRECT LINE TO
Asheville, N. C., and Florida.

THE SCENIC LINE TO
Virginia Hot Springs and Washington, D.C.
via the Picturesque
CHESAPEAKE & OHIO R'Y.

W. J. LYNCH, G.P. & T.A. W. P. DEPPE, Ass't G.P. & T.A

CINCINNATI, O.

J. C. TUCKER, G.N.A. 234 Clark St., CHICAGO

MONON
TRAINS FOR
 La Fayette
 W. Baden Spr.
 Fr. Lick Spr.
 Louisville
 Mammoth Cave
 Chattanooga
 New Orleans
 All Southern
 Cities.

ANYTIME

You travel between

CHICAGO
LOUISVILLE
INDIANAPOLIS
AND
CINCINNATI
GO VIA

MONON
TRAINS FOR
 Indianapolis
 Dayton
 Cincinnati
 Asheville
 Atlanta
 Jacksonville
 St. Augustine
 Tampa
 Havana.

MONON ROUTE

AND C.H.&D Rwy.

LUXURIOUS PARLOR AND DINING
CARS BY DAY.
PALACE SLEEPING AND COMPART-
MENT CARS BY NIGHT.
6 TRAINS DAILY BETWEEN
CHICAGO AND THE OHIO RIVER

W.H. McDOEL FRANK J. DEEDS CHAS. ROCKWELL
PRES. & GEN'L. MGR. TRAFF. MGR.
CHICAGO.

THE
WABASH
IS

THE
MODEL
LINE

Vacation Trips

Do you expect to treat yourself to a
 vacation trip this summer? If so,
 write for a copy of the

Wabash Summer Tour Book

giving a great variety of attractive
 tours with cost of tickets and other
 valuable information. Write us
 about any trip you may have in
 mind. It's our business to help
 those who travel. :: :: :: ::

C. S. Crane, G.P. & T.A.,
 St. Louis, Mo.

F. A. Palmer, A.G.P.A.,
 97 Adams St., Chicago

For Use in Secondary Schools

History

| | |
|---|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England | 1.25 |
| Botsford—History of Greece | 1.10 |
| Adams—Medieval and Modern History | 1.10 |
| Adams—Growth of French Nation | 1.25 |
| Adams—European History | 1.40 |

Science

| | |
|---------------------------------------|------|
| Bailey—Elementary Botany | 1.10 |
| Davenport—Introduction to Zoology | 1.10 |
| Crew—Elements of Physics | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography | 1.40 |
| Tarr—Elementary Geology | 1.40 |

Mathematics

| | |
|---|------|
| Fisher & Schwatt—Secondary Algebra | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond | .90 |
| Holgate—Elementary Geometry | 1.10 |

English

| | |
|---|------|
| Carpenter—Rhetoric, First High-School Course | .60 |
| Carpenter—Rhetoric, Second High-School Course | .50 |
| Lewis—Introduction to the Study of Literature | 1.00 |
| Carpenter—Principles of English Grammar | .75 |
| Pocket English and American Classics (34 volumes ready), each | .25 |

The Macmillan Company

378-388 WABASH AVE., CHICAGO
New York Boston Atlanta San Francisco

LANGUAGE THROUGH NATURE, LITERATURE, AND ART.

By H. Avis Perdue, of the Keith School, Chicago, and Sarah E. Griswold, of the Chicago Normal School, Chicago.

With 12 full-page and 145 text illustrations. Cloth, 238 pages; 35 cents.

This is the simplest and most beautiful language book yet issued. It is unique in its treatment, and deals with only the simplest facts in formal grammar. This book is a preparation for the first book in any language series, and contains a connected series of lessons in Language, Nature, Literature, and Art.

HAND-LOOM WEAVING.

A MANUAL FOR TEACHERS.

By Mattie Phipps Todd, of the Motley School, Minneapolis, Minn. With an introduction by Alice W. Cooley, formerly supervisor of Primary Schools, Minneapolis. With 35 half-tone illustrations and 21 patterns. Cloth, 160 pages; \$1.00.

This is the only practical book on the subject and should interest everyone concerned in the training of children. It accompanies any kind of a hand-loom, and one can readily take up weaving with this clear text in hand.

ESKIMO STORIES.

By Mary E. E. Smith, of the Lewis-Chaplin School, Chicago. With 18 full-page and 75 text illustrations in half-tone, by Howard V. Brown. Cloth, 180 pages; 35 cents.

For the first and second grades. A delightful volume of Eskimo Stories, simply told, and in a graphic style. The reading lessons endeavor to illuminate certain phases of social development, so that they will serve as object-lessons.

RAND, McNALLY & COMPANY
EDUCATIONAL PUBLISHERS

Chicago New York London Berlin

AN INDISPENSABLE BOOK FOR STUDENTS OF BOTANY

METHODS IN PLANT HISTOLOGY

BY
CHARLES J. CHAMBERLAIN, A.M., Ph.D.
Instructor in Botany in the University of Chicago

THIS BOOK contains directions for collecting and preparing plant material for microscopic investigation. It is based upon a course in botanical micro-technique, and is the first complete manual to be published on this subject. It is the result of several years' work with classes in residence at the University of Chicago and with University Extension classes away from the University. It aims, therefore, to meet the requirements, not only of the student who has the assistance of an instructor in a fully equipped laboratory, but also of the student who must work by himself and with limited apparatus. Free-hand sectioning, the paraffin method, the celloidin method, and the glycerin method are treated in considerable detail. In later chapters specific directions are given for making such preparations as are needed by those who wish to study the plant kingdom from the algae up to the flowering plants. Special attention is paid to the staining of karyokinetic figures, because the student who masters this problem will find little difficulty in differentiating other structures. Formulas are given for the reagents commonly used in the histological laboratory.

160 pp., 8vo, illustrated, cloth, (net) \$1.50

For Sale by Dealers or by the Publishers

The University of Chicago Press
CHICAGO, ILL.

The University of Chicago Press

Special printing facilities for academic work, including theses and reports of educational bodies and learned societies.

Educational and scientific works printed in English, German, French, Latin, Greek, Hebrew, and other languages.

Estimates furnished

The University of Chicago Press
608 N. ST. AND ELLIS AVE., CHICAGO

School Books in a hurry

And at New York prices, singly or by the dozen, may be obtained second-hand or new, by any boy or girl in the remotest hamlet, or any teacher or official anywhere, and

Delivery prepaid

Brand new, complete alphabetical catalogue free, of school books of all publishers, if you mention this ad.

HINDS & NOBLE

Cooper Institute New York City



*"The crimson moon, uprising from the sea,
With large delight, foretells the harvest near."*

**With What Delight Would You View the Harvest
of Your Thrift and Economy, Upon the Maturity
of an Endowment Policy in**

The Prudential

Premiums—Payable for terms selected, such as 10, 15 or 20 years.

Dividends—Payable Annually, every Five Years, or at the
end of Ten, Fifteen or Twenty Years.

Benefits—Payable to Yourself, if you live, or to your
Family, if you do not survive.

Settlement—Immediately upon Maturity.

*A Good Investment
for Yourself.*

*An Absolute Protection
for Your Family.*

WRITE FOR INFORMATION, DEPT. 25

**The Prudential Insurance Co.
OF AMERICA.**

JOHN F. DRYDEN, President.

Home Office, NEWARK, N. J.

THE ELEMENTARY SCHOOL TEACHER

OCTOBER, 1902

THE SCHOOL AS SOCIAL CENTER.¹

ACCORDING to the character of my invitation to speak to you, I shall confine myself to the philosophy of the school as a social center. I accept the invitation with pleasure, but at the same time I do not feel that the philosophical aspect of the matter is the urgent or important one. The pressing thing, the significant thing, is really to make the school a social center; that is a matter of practice, not of theory. Just what to do in order to make the schoolhouse a center of full and adequate social service, to bring it completely into the current of social life—such are the matters, I am sure, which really deserve the attention of the public and occupy your own minds.

It is possible, however, and conceivably useful to ask ourselves: What is the meaning of the popular demand in this direction? Why should the community in general, and those particularly interested in education in especial, be so unusually sensitive at just this period to this need? Why should the lack be more felt now than a generation ago? What forces are stirring that awaken such speedy and favorable response to the notion that the school, as a place of instruction for children, is not performing its full function—that it needs also to operate as a center of life for all ages and classes?

A brief historic retrospect will put before us the background of the present situation. The function of education, since anything which might pass by that name was found among savage tribes, has been social. The particular organ or structure, however, through which this aim was subserved, and the nature

¹An address delivered before the National Council of Education, Minneapolis, Minn., July, 1902.

of its adjustment to other social institutions, have varied according to the peculiar condition of the given time. The general principle of evolution—development from the undifferentiated toward the formation of distinct organs through division of labor—stands out clearly in a survey of educational history. At the outset there was no school as a separate institution. The educative processes were carried on in the ordinary play of family and community life. As the ends to be reached by education became more numerous and remote, and the means employed more specialized, it was necessary, however, for society to develop a distinct institution. Only in this way could the special needs be adequately attended to. In this way developed the schools carried on by great philosophical organizations of antiquity—the Platonic, Stoic, Epicurean, etc.; then came schools as a phase of the work of the church. Finally, with the increasing separation of church and state, the latter asserted itself as the proper founder and supporter of educational institutions; and the modern type of public, or at least quasi-public, school developed. There are many who regard the transfer of this educational function from the church to the state as more than a matter for regret; they conceive of it as a move which, if persisted in, will result disastrously to the best and permanent interests of mankind. But I take it we are not called upon today to reckon with this class, large and important as it may be. I assume that practically all here are believers in the principle of state education—even if we should not find it entirely easy to justify our faith on logical or philosophical grounds. The reason for referring to this claiming by the state of the function of education is to indicate that it was a continuance of the policy of specialization or division of labor.

With the development of the state has come a certain distinction between state and society. As I use these terms, I mean by "state" the organization of the resources of community life through governmental machinery of legislation and administration. I mean by "society" the less definite and freer play of the forces of the community which goes on in the daily intercourse and contact of men in an endless variety of ways that

have nothing to do with politics or government or the state in any institutional sense. Now, the control of education by the state inevitably carried with it a certain segregation of the machinery of both school administration and instruction from the freer, more varied, and more flexible modes of social intercourse. So true is this that for a long time the school was occupied exclusively with but one function, the purveying of intellectual material to a certain number of selected minds. Even when the democratic impulse broke into the isolated department of the school, it did not effect a complete reconstruction, but only the addition of another element. This was preparation for citizenship. The meaning of this phrase, "preparation for citizenship," shows precisely what I have in mind by the difference between the school as an isolated thing related to the state alone, and the school as a thoroughly socialized affair in contact at all points with the flow of community life. Citizenship, to most minds, means a distinctly political thing. It is defined in terms of relation to the government, not to society in its broader aspects. To be able to vote intelligently, to take such share as might be in the conduct of public legislation and administration—that has been the significance of the term.

Now our community life has suddenly awakened; and in awakening it has found that governmental institutions and affairs represent only a small part of the important purposes and difficult problems of life, and that even that fraction cannot be dealt with adequately except in the light of a wide range of domestic, economic, and scientific considerations quite excluded from the conception of the state of citizenship. We find that our political problems involve race questions, questions of the assimilation of diverse types of language and custom; we find that most serious political questions grow out of underlying industrial and commercial changes and adjustments; we find that most of our pressing political problems cannot be solved by special measures of legislation or executive activity, but only by the promotion of common sympathies and a common understanding. We find, moreover, that the solution of the difficulties must go back to a more adequate scientific comprehension of

the actual facts and relations involved. The isolation between state and society, between the government and the institutions of family, business life, etc., is breaking down. We realize the thin and artificial character of the separation. We begin to see that we are dealing with a complicated interaction of varied and vital forces, only a few of which can be pigeon-holed as governmental. The content of the term "citizenship" is broadening; it is coming to mean all the relationships of all sorts that are involved in membership in a community.

This of itself would tend to develop a sense of something absent in the existing type of education, something defective in the service rendered by the school. Change the image of what constitutes citizenship, and you change the image of what the purpose of the school is. Change this, and you change the picture of what the school should be doing and of how it should be doing it. The feeling that the school is not doing all that it should do in simply giving instruction during the day to a certain number of children of different ages; the demand that it shall assume a wider scope of activities having an educative effect upon the adult members of the community, has its basis just here. We are feeling everywhere the organic unity of the different modes of social life, and consequently demand that the school shall be related more widely, shall receive from more quarters, and shall give in more directions.

As I have already intimated, the older idea of the school was that its primary concern was with the inculcation of certain facts and truths from the intellectual point of view, and the acquisition of certain forms of skill. When the school became public or common, this notion was broadened to include whatever would make the citizen a more capable and righteous voter and legislator; but it was still thought that this end would be reached along the line of intellectual instruction. To teach children the constitution of the United States, the nature and working of various parts of governmental machinery, from the nation through the state and the county down to the township and the school district—to teach such things was thought to prepare the pupil for citizenship. And so some fifteen or twenty

years ago, when the feeling arose that the schools were not doing all that they should be doing for our life as a whole, this consciousness expressed itself in a demand for a more thorough and extensive teaching of civics. To my mind the demand for the school as a social center bears the same ratio to the situation which confronts us today as the movement for civics bore to the conditions of half a generation ago. We have awakened to deeper aspects of the question; we have seen that the machinery of governmental life is, after all, but a machinery and depends for its rightness and efficiency upon underlying social and industrial causes. We have lost a good deal of our faith in the efficiency of purely intellectual instruction.

Some four specific developments may be mentioned as having a bearing upon the question of the school as a social center. The first of these is the much-increased efficiency and ease of all the agencies that have to do with bringing people into contact with each other. Recent inventions have so multiplied and cheapened the means of transportation, and the circulation of ideas and news through books, magazines, and papers, that it is no longer physically possible for one nationality, race, class, or sect to be kept apart from others, impervious to their wishes and beliefs. Cheap and rapid long-distance transportation has made America a meeting-place for all the peoples and tongues of the world. The centralization of industry has forced members of classes into the closest association with, and dependence upon, each other. Bigotry, intolerance, or even an unswerving faith in the superiority of one's own religious and political creed, are much shaken when individuals are brought face to face with each other, or have the ideas of others continuously and forcibly placed before them. The congestion of our city life is only one aspect of the bringing of people together which modern inventions have induced.

That many dangers result from sudden dislocations of people from the surroundings—physical, industrial, and intellectual—to which they have become adapted; that great instability may accompany this sudden massing of heterogeneous elements, goes without saying. On the other hand, these very agencies present

instrumentalities which may be taken advantage of. The best as well as the worst of modern newspapers is a product. The organized public library with its facilities for reaching all classes of people is an effect. The popular assembly and lyceum is another. No educational system can be regarded as complete until it adopts into itself the various ways by which social and intellectual intercourse may be promoted, and employs them systematically, not only to counteract dangers which these same agencies are bringing with them, but so as to make them positive causes in raising the whole level of life.

Both the demand and the opportunity are increased in our large cities by the commingling of classes and races. It is said that one ward in the city of Chicago has forty different languages represented in it. It is a well-known fact that some of the largest Irish, German, and Bohemian cities in the world are located in America, not in their own countries. The power of the public schools to assimilate differing races to our own institutions, through the education given to the younger generation, is doubtless one of the most remarkable exhibitions of vitality that the world has ever seen. But, after all, it leaves the older generation still untouched; and the assimilation of the younger can hardly be complete or certain as long as the homes of the parents remain comparatively unaffected. Indeed, wise observers in both New York and Chicago have recently sounded a note of alarm. They have called attention to the fact that in some respects the children are too rapidly, I will not say Americanized, but too rapidly denationalized. They lose the positive and conservative value of their own native traditions, their own native music, art, and literature. They do not get complete initiation into the customs of their new country, and so are frequently left floating and unstable between the two. They even learn to despise the dress, bearing, habits, language, and beliefs of their parents—many of which have more substance and worth than the superficial putting on of newly adopted habits. If I understand aright, one of the chief motives in the development of the new labor museum at Hull House has been to show the younger generation something of the skill and art and historic meaning in the industrial habits

However much they may need the disciplinary training of a widened and enlightened education, the older generation needs it also. Besides, time is short, very short, for the average child in the average city school. The work is hardly more than begun there, and unless it is largely to go for naught the community must find methods of supplementing it and carrying it farther, outside the regular school channel.

In the third place, the intellectual life, facts, and truths of knowledge, are much more obviously and intimately connected with all other affairs of life than they ever have been at any previous period in the history of the world. Hence a purely and exclusively intellectual instruction means less than it ever meant before. And, again, the daily occupations and ordinary surroundings of life are much more in need of interpretation than ever they have been before. We might almost say that once there was a time when learning related almost wholly to a world outside and beyond that of the daily concerns of life itself. To study physics, to learn German, to become acquainted with Chinese history, were elegant accomplishments, but more or less useless from the standpoint of daily life. In fact, it is just this sort of idea which the term "culture" still conveys to many minds. Where learning was useful, it was only to a comparatively small and particularly select class in the community. It was something that only the doctor or lawyer or clergyman needed in his particular calling, but so far away from and above the mass of mankind that it could only awaken their blind and submissive admiration. The recent public lament regarding the degradation of the teacher's calling is, to my mind, but a reminiscence of the time when to know enough to be a teacher was something which of itself set off the individual in a special class by himself. It fails to take account of the changes which have put knowledge in common circulation, and made it possible for every man to be a teacher in some respect unto his neighbor.

Under modern conditions, practically every sphere of learning, whether of social or natural science, may impinge at once, and at any point, upon the conduct of life. German is not a fact, knowledge of which makes a distinction between a man

and his fellow, but a mode of social and business intercourse. Physics is no longer natural philosophy—something concerned with remarkable discoveries about important but very remote laws; it is a set of facts which, through the applications of heat and electricity to our ordinary surroundings, constantly comes home to us. Physiology, bacteriology, anatomy, concern our individual health and the sanitation of our cities. Their facts are exploited in sensational if not scientific ways in the daily newspapers. And so we might go through the whole schedule of studies, once so foreign and alien, and show how intimately concerned they now are with commonplace life. The simple fact is that we are living in an age of applied science. It is impossible to escape the influence, direct and indirect, of the applications.

On the other hand, life is getting so specialized, the divisions of labor are carried so far, that nothing explains or interprets itself. The worker in a modern factory who is concerned with a fractional piece of a complex activity, present to him only in a limited series of acts carried on with a distinct portion of a machine, is typical of much in our entire social life. The old worker knew something of his process and business as a whole. If he did not come into personal contact with all of it, the whole was so small and so close to him that he was acquainted with it. He was thus aware of the meaning of the particular part of the work which he himself was doing. He saw and felt it as a vital part of the whole, and his horizon was extended. The situation is now the opposite. Most people are doing particular things of whose exact reasons and relationships they are only dimly aware. The whole is so vast, so complicated, and so technical that it is next to out of the question to get any direct acquaintanceship with it. Hence we must rely upon instruction, upon interpretations that come to us through conscious channels. One of the chief reasons for the success of some of the great technical correspondence schools of the present day, besides the utilitarian desire to profit by preparation for better positions, is an honest eagerness to know something more of the great forces which condition the particular work one is

doing, and to get an insight into those broad relations which are so partially yet tantalizingly hinted at. The same is true of the growing interest in forms of popular science, which is a marked portion of the stock in trade of some of the best and most successful of our modern monthly magazines. This same motive has added much to the effectiveness of the university-extension movement, particularly in England. It creates a particular demand for a certain type of popular illustrated lecture. Unless the lives of a large part of our wage-earners are to be left to their own barren meagerness, the community must see to it, by some organized agency, that they are instructed in the scientific foundation and the social bearings of the things they see about them and of the activities in which they are themselves engaged.

The fourth point of demand and opportunity is the prolongation, under modern conditions, of continuous instruction. We have heard much of the significance of prolonged infancy in relation to education. It has become almost a part of our pedagogical creed that premature engagement in the serious vocations of life is detrimental to full growth. There is a corollary to this proposition which has not as yet received equal recognition. Only where social occupations are well defined and of a pretty permanent type can the period of instruction be cut short at any particular period. It is commonly recognized that a doctor or a lawyer must go on studying all his life if he is to be a successful man in his profession. The reason is obvious enough. Conditions about him are highly unstable; new problems present themselves; new facts obtrude. Previous study of law, no matter how thorough and accurate, does not provide for these new situations. Hence the need of continual study. There are still portions of the country where the lawyer practically prepares himself before he enters upon his professional career. All he has to do afterward is to perfect himself in certain finer points, and get greater skill in the manipulation of what he already knows. But these are the more backward and unprogressive sections where change is gradual and infrequent, and where therefore the individual prepared once is prepared always.

Now, what is true of the lawyer and the doctor, in the more

progressive sections of the country, is true to a certain extent of all sorts and degrees of people. Social, economic, and intellectual conditions are changing at a rate undreamed of in past history, and unless the agencies of instruction are kept running more or less parallel with these changes, a considerable body of men is bound to find itself without the training which will enable it to adapt itself to what is going on. It will be left stranded and become a burden for the community to carry. Where progress is continuous and certain, education must be equally certain and continuous. The youth at eighteen may be educated so as to be ready for the conditions which will meet him at nineteen; but he can hardly be prepared for those which are to confront him when he is forty-five. If he is ready for the latter when they come, it will be because his own education has been keeping pace in the intermediate years. Doubtless conversation, social intercourse, observation, and reflection upon what one sees going on about him, the reading of magazines and books, will do much; they are important, even if unorganized methods of continuous education. But they can hardly be expected to do all, and hence they do not relieve the community from the responsibility of providing, through the school as a center, a continuous education for all classes of whatever age.

The fourfold need, and the fourfold opportunity, which I have hastily sketched, defines to some extent the work of the school as a social center. It must provide at least part of that training which is necessary to keep the individual properly adjusted to a rapidly changing environment. It must so interpret to him the intellectual and social meaning of the work in which he is engaged that it will reveal its relations to the life and work of the world. It must make up to him in part for the decay of dogmatic and fixed methods of social discipline. It must compensate him for the loss of reverence and of the influence of authority. And, finally, it must provide means for bringing people and their ideas and beliefs together, in ways that will lessen friction and instability, and introduce deeper sympathy and wider understanding.

In what ways shall the school as a social center perform these

various tasks? To answer this question in anything like detail is to pass from my allotted sphere of philosophy into that of practical execution. But it comes within the scope of a theoretical consideration to indicate certain general lines. First, there is a mixing up of people with each other; a bringing them together under wholesome influences, and under conditions which will promote their getting acquainted with the best side of each other. I suppose, whenever we are framing our ideals of the school as a social center, what we think of particularly is the better class of social settlements. What we want is to see the school, every public school, doing something of the same sort of work that is now done by a settlement or two scattered at wide distances through the city. We all know that the function of such an institution as Hull House has been primarily not that of conveying intellectual instruction, but of being a social clearing-house. It is not merely a place where ideas and beliefs may be exchanged in the arena of formal discussion, for argument alone breeds misunderstanding and fixes prejudice; but it is much more a place where ideas are incarnated in human form and clothed with the winning grace of personal life. Classes for study may be numerous, but they are regarded as modes of bringing people together, of doing away with the barriers of caste or class or race or type of experience that keep people from real communion with each other.

The function of the school as a social center in promoting social meetings for social purposes suggests at once another function—provision and direction of reasonable forms of amusement and recreation. The social club, the gymnasium, the amateur theatrical representation, the concert, the stereopticon lecture—these are agencies the force of which social settlements have long known, and which are coming into use wherever anything is doing in the way of making schools social centers. I sometimes think that recreation is the most overlooked and neglected of all ethical forces. Our whole Puritan tradition tends to make us slight this side of life, or even condemn it. But the demand for recreation, for enjoyment just as enjoyment, is one of the strongest and most fundamental things in human

nature. To pass it over is to invite it to find its expression in defective and perverted form. The brothel, the saloons, the low dance house, the gambling den, the trivial, inconsiderate, and demoralizing associations which form themselves on every street corner, are the answer of human nature to the neglect, on the part of supposed moral leaders, of this factor in human nature. I believe that there is no force more likely to count in the general reform of social conditions than the practical recognition that in recreation is a positive moral influence which it is the duty of the community to take hold of and direct.

In the third place, there ought to be some provision for a sort of continuous social selection of a somewhat specialized type—using “specialized,” of course, in a relative sense. Our cities carried on evening schools long before anything was said or heard of the school as a social center. These were intended to give instruction in the rudiments to those who had little or no early opportunities. So far they were and are good. But what I have in mind is something of a more distinctly advanced and selective nature. To refer once more to the working model upon which I am pretty continuously drawing, in the activities of Hull House we find provision made for classes in music, drawing, clay-modeling, joinery, metal-working, and so on. There is no reason why something in the way of scientific laboratories should not be provided for those who are particularly interested in problems of mechanics or electricity; and so the list might be continued. Now, the obvious operation of such modes of instruction is to pick out and attract to itself those individuals who have particular ability in any particular line. There is a vast amount of unutilized talent dormant all about us. Many an individual has capacity within himself of which he is only dimly conscious, because he has never had an opportunity for expressing it. He is not only losing the satisfaction of employment, but society suffers from this wasted capital. The evils of the unearned increment are as nothing beside those of the undiscovered resource. In time, I am confident, the community will recognize that it is quite as natural and necessary a part of its own duty to provide such opportunities for adults as will enable

them to discover and carry to some point of fulfilment the particular capacities that distinguish them, as it is to give instructions to little children.

In conclusion, we may say that the conception of the school as a social center is born of our entire democratic movement. Everywhere we see signs of the growing recognition that the community owes to each one of its members the fullest opportunity for development. Everywhere we see the growing recognition that the community life is defective and distorted except as it does thus care for all its constituent parts. This is no longer viewed as a matter of charity, but as a matter of justice — nay, even of something higher and better than justice — a necessary phase of developing and growing life. Men will long dispute about material socialism, about socialism considered as a matter of distribution of the material sources of the community; but there is a socialism regarding which there can be no such dispute: socialism of the intelligence and of the spirit. To extend the range and the fulness of sharing in the intellectual and spiritual resources of the community is the very meaning of the community. Because the older type of education is not fully adequate to this task under changed conditions, we feel its lack and the demand that the school shall become a social center. The school as a social center means the active and organized promotion of this socialism of the intangible things of art, science, and other modes of social intercourse.

JOHN DEWEY.

THE UNIVERSITY OF CHICAGO.

LITERATURE IN THE ELEMENTARY SCHOOL.

I.

AMONG the questions that present themselves in a discussion of literature in the elementary school, as indeed in any school, these seem essential: What do we expect to do for the child in teaching him literature? What varieties and phases of literature are best adapted to him? How shall these be presented to him, and what immediate return shall be asked of him? It seems only reasonable to seek for answers to these questions among those distinctive qualities that set off literature from other material of discipline.

To begin with, we dismiss from the present consideration all books and written matter used in the school, which are not literature. There is much lingering confusion upon this point even among teachers, many of them proceeding upon the mistaken assumption that any book—science, history, or any other information book—if only it be written correctly, is literature and will serve in the literary training of the child. But we will understand that we exclude from the account all technical books and deal only with pure literature. Again, it seems well to keep the discussion simple by shutting out all the reading that may be done by the child or for him in his home or elsewhere out of school. It makes the matter easier to handle if we insist that in these papers the two terms of the topic—literature in the school—are to be strictly interpreted.

The most conspicuous and distinctive fact about literature is that, while it finds its subject-matter in nature, in human nature, and in human life, it passes all this material through the medium of the imagination and returns it to us modified, transformed, or rearranged by the influence of the imagination. It is this power of the mind that lifts from its place in the actual world the object, the person, the action, the experience, and elevates it to the plane of art. It is the imagination that, working upon this

plane with this material, makes new combinations, discovers new affinities, detects hidden essential qualities, brings to light unexpected resemblances and unnoticed contrasts, and turns back to us products that are new creations. It is the imagination working in its larger creative capacity, permeating and superintending the judgment, that constructs out of the scattered and chaotic material gathered by observation, unified, harmonious, satisfying wholes. The veriest realist, professing to render back to us the world of actuality, does, first of all by virtue of the selection of his details, and then by the recombination of them, use his imagination and elevate his material to the plane of art. This recombination, to be good and acceptable as art, should, no matter how simple the product may be, display the large qualities of general art-form—unity, variety, symmetry, proportion, harmony. When we say that by virtue of these things literature tends to cultivate a child's imagination, we do not mean anything so absurd as that he should be given any conscious knowledge of these qualities or processes, or even that his teacher should be conscious of them. But we do mean in part that literature cultivates the child's imagination by putting it into contact with these large processes of recombination and harmonious adjustment. Now, there is a rather common misapprehension of the term "cultivation" in the phrase "cultivation of the imagination," many people taking it for granted that it invariably and exclusively means the increasing of the amount or quantity of the child's fancies. Undoubtedly this is sometimes desirable. There are children either born without imagination, or so early crushed down beneath the weight of commonplaceness, that they encounter in communing with their elders, that they seem never to have a fancy—to be entirely without an inner world or a spiritual playground. But the average child has abundant imagination and an abundance of imaginations; while children of the artistic or emotional temperament may often be found, especially in the period before and about seven years, living in a world of their own creation, led here and there by fantastic notions and accidental combinations of notions, unable to report the exact facts of an observation or an experience because of the

thronging into consciousness of purely fanciful and invented details. To increase the amount of such a child's imaginative material would be a mistake. To throttle or ignore entirely his imaginative activities would be a more serious mistake. We all know the two lines that the history of such a child is likely to follow. Either he drifts on, indulging his dreams, inventing his unguided fancies, following new vagaries, until all his mental processes become untrustworthy; or he is taken in hand, given fact-studies exclusively, becomes ashamed of his fancies or loses interest in them because they bear no relation to anything in the world of reality as he is learning to know it, and finally loses completely his imaginative power.

What such a child needs—indeed, what the average child needs—the ability to select among his fancies so as to cling to the beautiful and useful ones and to discard the ugly and idle; he needs help toward a process of unification and harmony, so that he may bring some order out of the chaos of his own imagination and construct out of his material inventions that will please his taste and his judgment and will therefore remain permanent possessions. Perhaps the safest, the most concrete, the least obtrusive way to put into his hands a clue to guide him here is to teach him literature. Select a story, a lyric in which he may see it done; one that shows economy of imaginative material, artistic and reasonable arrangement, beauty of expression, and a satisfying purpose or achievement; and it cannot fail to be a guide and a model to him in his own imaginative experience. Such a little classic is Perrault's version of "Cinderella," displaying, as it does, abundant fancy and invention, but displaying also perfect economy of incident, certainty and refinement of taste in the selection and arrangement of details, restraint and truthfulness in its outcome. One should compare it with Grimm's version of the same tale to realize the unifying and purifying work of the imagination. For Grimm's version shows us the chaotic, unguided, and grotesque choice and arrangement of the mind which remains a mere victim to its own fancies. There are, as we have said, very matter-of-fact children who actually need to have given them such mere

vagaries and haphazard inventions; it would be a pity to deprive any child of them in his hours of intellectual play. But it is from his contact with the more artistic and ordered bits of literature that we expect the child to find something of steadiness and center, some cultivation for his own imagination.

A second characteristic distinctive of literature is that, unlike other kinds of writing, it proceeds by the presentation of concrete, specific details, the actual image or images combined into pictures, elevated from the world of reality to the plane of art, or constructed there of details gathered from scattered sources. In proportion as literature gives us abstract thinking, statement of general truth or plain fact, or mere sentimentalizing, in such measure is it dull and inartistic. "The orange is a yellowish, semi-tropical fruit," is a statement of fact, plain and uninteresting, given in a scientific way. "Among the dark boughs the golden orange glows," lifts the object into the world of art, sets it in a picture, nay, gives it to us "in the round," living and vital. And this is the literary way. "The fox-glove blooms centripetally," one may say as dry fact; but when literature says, "The fox-glove drops a daily lessening bell," while it conveys the same fact, it gives us the image—indeed, the whole picture—of a specific object, as well as of a complete individual process. By virtue of this characteristic, literature may be expected to perform a somewhat definite service for the child. We may expect it to increase his store of images and to supplement it in many directions. Of course, the ordinary child has many images, since he has eyes and ears always open, and fingers always active. But the sights and sounds he receives are not varied, and rarely beautiful. It is the extraordinary, the occasional child, who sees in his home pictures and many beautiful and interesting objects; who is taken often to the country, to the mountains, to the sea, where he may store up many beautiful and distinguished images to serve him later for inner joy and as material for his thinking. The other child, whose experience is confined largely to the streets and the shops, the commonplace sights and sounds of the town or of his otherwise limited horizon, should find his store of images

increased and enriched by contributions from literature. And since the details of literature are concrete images, vivid pictures—not generalizations and not abstractions—they may take their place in the consciousness side by side with those registered by the memory from actual experience, and serve the same purposes.

Now, the mere elevation of a detail to the sphere of art gives it a new dignity and distinction. Says Fra Lippo:

We're made so that we love
First when we see them painted, things that we have passed
Perhaps a hundred times, nor cared to see.

So the child, when the details he knows, or may know, in real life are transferred to literature, sees them surrounded with a halo, a new beauty. Unconsciously this halo, this radiance of art, spreads itself over the objects that he sees, and they too take on a new, reflected beauty. The children who had made the phrases "rosy radishes" and "golden carrots" had found in the grocer's window a new and artistic joy. Through literature and by the literary way the child may be led to a truer insight into his own surroundings and to a more gracious interpretation of them.

As a corollary, partly to the use by the imagination of the concrete detail, and partly to the unifying power of the imagination in handling its material in literature, we have the fact of figurative thinking as a distinctive characteristic of this art. A figure implies either the discovery of a striking or essential contrast between objects, or the recognition of a resemblance ranging in closeness from mere similarity to complete identification. Whichever be the process, the result is the pleasing indirection of literature, the vistas of suggestion and association opening in all directions, the charm that inheres in speaking of one thing in terms of another, the surprises and recognitions that await us in every line. We may pass over, though reluctantly, the somewhat mystical theory that a contact with these contrasts and resemblances may help on in the child that process of unification and identification which is the paramount human task; we may leave out of sight as too speculative and unpractical the immense enlargement of his categories that might come to the child in any recognition of the fundamental separa-

tions and unions implied in figure; these we may leave aside and take the simple aspect of it—that the interpretation and explanation of even the commoner figures quickens the child's intelligence and helps to develop mental alertness and certainty. Not even a sense of humor is more useful in his intellectual experience than the ability to understand a figure of speech. While the child who can make and use any figure other than mere elementary personifications, which all children can make and use, is well along on the path toward philosophy and art. By virtue of the fact that the figurative way of thinking and speaking is characteristic of literature, it should have a distinct contribution to make to this side of the child's training.

Literature, in common with the other arts, of course, but as distinguished from other kinds of writing, aims at beauty—cares first of all for beauty. In the selection of its subject-matter it is the strikingly beautiful in nature, in character, in action, that it seeks out for presentation. Its use of ugly or horrible subject-matter is generally by way of bringing into stronger relief beauty actually presented beside it; by way of implying beauty not presented; by way of producing the grotesque as a form of beauty; or by way of accomplishing some reform or exploitation, really foreign to art, but conceived by the individual artist as his duty or his opportunity. And always, even when for any of these, or for other reasons, literature handles unbeautiful material, it seeks beauty of form. The larger matters of general art-form, such as unity, harmony, symmetry, have been mentioned elsewhere in this paper. Besides these there are the smaller and more obvious elements of form that belong distinctively to the literary art, and are partly matters of mere craftsmanship—rhythm, meter, rhyme, and other items of verse-form, all the musical effects of speech, the choice of phrase and epithet, the arrangement of clause and sentence—these and many other matters, minor and too numerous to mention, must be considered as elements in the formal beauty of literature. It would be easy, as it is tempting, to follow into its amplifications each of these elements considered as an influence in the art training of the child. But brief statements, all too

general, are all we can permit ourselves. The problem of the child's contact with the beautiful in subject-matter is the problem of his contact with it anywhere else. The conditions are modified scarcely at all by the fact that the material is not presented in its actual, tangible bulk, but as an imitation, a reproduction of the actual thing. Accepting once for all the conditions of the imagination, the effect upon the child's taste is the same as that of his contact with beautiful and noble objects under conditions of outer time and space.

It may be that it is too early to expect from the elementary child anything of conscious recognition or original use of any save the more obvious elements of literary form, such as meter or rhyme in verse. But this is much, and always in the right direction. And we must believe in the refining and stimulating influence upon his taste of his contact with formal beauty in this as in the other arts. The child who catches, if it be but as the merest imitator, the distinguished, the picturesque, the rhythmical phraseology of a piece of literature has acquired a thing of value. The little girl who said, "Let us take the foot-path way," made a bit of art herself, and the "faint Homeric echoes" of the boy who wrote, "Him we left sad at heart as the sea grew wide behind us," promise something with original dignity and elevation by and by. The child needs to hear thus early, while his ear is hungry, the sonorous music, the refined rhythms, the impressive movements of some great literature. He needs to hear its purity of diction, its distinction of phrase, its dainty choice of words, its reticent, subdued tones, even if all these must be left to work upon him unconsciously. But we all know that, as a matter of mere craftsmanship, he delights in the musical flow of his own sentences, in the new and beautiful word that adorns his own speech, in his own crude verse-making, just as he delights in his initial achievements in any of the other arts.

As distinctive of literature, setting it apart from other kinds of writing, we must note that it has always in it the warmth, the fervor of emotion. "The fox-glove blooms centripetally" is cold and colorless, however interesting it may be as technical fact. "The fox-glove drops a daily lessening bell" has in it one

knows not what of glow, of warmth, of emotional association. It trembles with feeling reflected and tingles with feeling invited. It is precisely this emotion permeating, warming, and coloring literature that gives it its reality, that establishes its hold, and gives it its relation to the world. But it is about this matter of emotion that the teacher's dangers and misgivings lie. There are those who fix upon it at once as ground for suspicion, if not of condemnation, of literature as a means of discipline. And we must all hasten to confess that this atmosphere of emotion is the snare of the weak teacher and the curse of weak literature. Emotion displayed or aroused unworthily, or attached to inadequate or ignoble stimuli, is either mere sentimentality or undue enthusiasm. A barren, aimless, and homeless emotion is the most unacceptable and unmanageable of spiritual tramps. It is something akin to a crime to stimulate unduly a child's emotion, to awaken in him feeling for which he is not ripe. But the policy or theory of ignoring his emotions, of suppressing them, or of keeping them subdued within the bounds of his mild pleasure in scientific observation or mathematical achievement, is surely short-sighted. It should not be difficult for a wise master to choose a bit of literature that reflects and invites the kind and degree of emotion suitable for the child, that gives him legitimate occasion for legitimate feeling, that exercises and cultivates this side of his nature, effecting in him that desirable "purifying discharge of emotion" that Aristotle regarded as one of the helpful offices of grown-up literature. It is a matter for rejoicing that in this atmosphere of feeling that permeates and surrounds literature and music, we may balance and counteract in the child the influence of his fact studies.

It is largely by virtue of this emotional grip by which literature takes hold of us, and we of it, that it becomes real to us, affecting our judgment, our ideals, our conduct. And we must never lose sight of the fact that literature is the presentation, the reproduction of life. Under whatever illumination of the imagination, splendor of form or glow of feeling, we can find ultimately only the features of life itself—the real world, chosen

and elevated to the plane of art, cleared of the accidental and unessential and displayed for our behoof and delight. It is needless to say that this fact lays upon the child's master another burden of choice. He must select his bit of literature as reflecting those aspects and activities of life that are fit and right for his child to witness. He may not offer to his scholar the problems of Hamlet or the experience of Gil Blas, but he may ask him to witness the moral choice of Beauty in the fairy tale, or the bluff kindness of Robin Hood in the bold old ballad. And whatever of enlargement and cultivation a child might be supposed to get from looking upon the lives of others, from watching the life of nature, we should be able to match for him in literature, deepened and enriched by the devices of a great art.

And perhaps, after all, we needed only to say that in teaching a child literature we give him joy. He is amused, he is charmed out of himself and within himself, he has opened to him an avenue of artistic pleasure. Perhaps the good and sufficient reason for teaching literature in the school is that we thus make sure that every child gets the chance to know and to make his own for life this source of unceasing and ennobling pleasure.

These, then, stated so briefly as to seem in many instances almost cabalistic, are some of the considerations that cluster about the question, "What may we expect to do for the child in teaching him literature?" But we are preparing only disappointment for ourselves if we are expecting to see all or any of the results hinted at appear before our very eyes in all children or in any child. Art is long. We must be patient of its processes and wait for its results. Besides, these results are even less ponderable and measurable than those of other disciplines. It is easy to know when a child can multiply. It is not so easy to know when he is in a hopeful stage of artistic experience. But we have a right to our faith that the far-off fruit of our planting will be fair.

PORTER LANDER MACCLINTOCK.

DEPARTMENT OF ENGLISH,
The University of Chicago.

HORTICULTURE IN THE ELEMENTARY SCHOOLS.

I.

NO RECENT development in the life of the middle West is of greater promise than the growing interest in scientific agriculture. This interest is no new thing. No thoughtful observer who knows the difference between good farming and bad, and who realizes the immense possibilities of our western soils, can fail to be stirred by an impulse to do something that will make for ampler knowledge and better methods. We had such an interest in Illinois fifty years ago. The brilliant discoveries of Sir William Lawes at Rothamstead and Liebig at Giessen had roused keen interest in agricultural chemistry. Our wisest men believed it was destined to revolutionize methods of farming. Largely through the leadership of Jonathan Turner, of Jacksonville, Congress was induced to pass the Morrill Act of 1862 endowing our agricultural colleges. The Civil War then engrossed the popular attention. After the war the rapid development of our railway systems brought into cultivation the fertile areas beyond the Mississippi. The competition of their cheap grain and cattle made farming unprofitable in all the older states. But we have now practically reached the limit of the agricultural area. Only by great irrigation works or by expensive drainage systems can any considerable additions be made to our arable lands. The populations fed from our American farms are increasing in numbers as fast as ever. Farming now must become intensive rather than extensive. Hence the present revival of interest in such farming is in response to a genuine economic demand. The attendance upon our agricultural colleges is rapidly increasing. Their bulletins are eagerly read by intelligent farmers. Their professors address vast audiences at the farmers' institutes. Our legislatures appropriate large sums for their support.

In this advance agriculture is moving in the same lines as all

other trades and professions. The apprentice system is dying. Modern civilization is not satisfied with the rule-of-thumb methods learned by imitation. It demands that all arts be rational arts intelligently based upon an underlying science, and has created the technical school to meet this demand. But not every farmer's son can attend the agricultural college. Nearly all must depend upon the literature issued by such institutions. The bulletins are often too technical to appeal to the average farmer; they often abound in scientific terms based upon distinctions of which he is ignorant. It is evident that the agricultural experiment station will never accomplish its purpose unless there is diffused among our farming population an elementary knowledge of the sciences relating to agriculture. The rural schools and the high schools attended by farmers' sons must provide the necessary instruction. There seems no other practical way.

The education of the farmer is of interest to the general public, that there may be juicier steaks upon the block or finer fleeces in the loom, or because upon the magnitude of his crops depend the volume of foreign trade and the business activity of the country. To the teacher, however, education merely to increase industrial efficiency does not make the strongest appeal. It is well that the farmer render a larger social service. It is better that he himself lead a more complete life—a life of many-sided interests and of realized capacity.

There is an idea widely prevalent that culture is to be found in the far-off and remote. The less practical value there is attached to any species of knowledge, the less likely is it to be acquired in the ordinary activities of life. Such knowledge, partly because of its rarity, partly because its uselessness for practical ends makes its possession a mark of conspicuous leisure, and hence a valuable appurtenance of the wealthier classes, comes to be regarded with almost superstitious veneration. Yet is it not probable that the same beautiful economy reigns here as in all the other works of the Creator, and that we do not need one species of knowledge for industrial efficiency and something totally different for the intellectual life?

The best culture invests the commonplace objects of our life with a halo of interesting associations, so that every contact with them calls forth an intellectual response. In my boyhood I heard much of Elihu Burritt, the learned blacksmith, who earned his title by mastering thirteen languages. But suppose he had instead gained a knowledge of iron; of the geological processes that had accumulated the great ore beds of the earth; of the differing properties of iron from these varying ores; of the effect of small admixtures of manganese, or nickel, or sulphur, or phosphorus, or carbon; of the different modes of smelting and working the metal from prehistoric times; of the myriad uses to which it is put; of the properties that make it useful whether in the armor or a war vessel, or in the blood corpuscle that circulates in the brain of the poet. Had he known all this and all related knowledge pertaining to his craft, its materials and products, would not the title have been more worthily bestowed?

Man should stand in the center of his world: he should see his own activities linked with all things about him. The best education for efficiency, for delight, for moral purpose, is the education that enables him to see his work related, on the one hand, to the natural elements, material forces, with which he works; on the other, to the humanity which he serves.

The school education of the farmer hitherto has consisted of instruction in reading, arithmetic, grammar, geography, and history, during the winter months. Ambitious school boards sometimes provide a nine-months' term. But it is gravely argued both by thoughtful teachers and by practical men that it is a serious mistake to take the child out of the woods and fields and away from the activities and responsibilities of a well-ordered farm for so long a time. Unless the school course can be enriched, more schooling is a mistake. What is needed in the schools is such instruction as will enable the farmer best to appreciate and love the country. The knowledge of soil and atmosphere, of plant and animal life, that makes him an intelligent producer puts him in sympathetic touch with these activities of nature.

In many European school systems the problem has found a solution. The organization of their schools has made it easy. Where teachers are well prepared for their work and hold their positions for life, where schools are in almost continuous session during the summer months, where the dwelling of the teacher is built by the state only a few rods from the schoolhouse, the school garden, which is also the kitchen garden and flower garden of the schoolmaster, provides abundant opportunities for experiment and instruction. With us such a school garden seems an almost hopeless project. The ignorance of our teachers, the weeds that run riot in our school yards during the long summer vacations, the annual changes of position in our rural schools, the vandalism of tramps and thoughtless boys, all seem to veto effectively in this country adoption of the plans that have yielded such admirable results in Europe.

Hitherto our nature study has lacked practical purpose. Where most intelligently organized, it has aimed to give at best only a knowledge of the processes of plant life, the various structures that aid in these processes, and the adjustments of the various living forms to their special environment. The student is brought to some extent to see the meaning of natural phenomena, the purpose of special features, and sometimes the efficient causes that produce them. That our interest has been mainly intellectual rather than practical appears in the fact that we have preferred to study nature where her processes have not been interfered with or directed by man, rather than to study her behavior under such direction.

The want of practical aim is largely responsible for the want of organization and method in our nature-study courses, and the low place it holds in the popular esteem. It is commonly enumerated in the list of fads by the Philistines; even among teachers its most zealous advocates are obliged to confess their disappointment in the results hitherto achieved.

The instruction in our elementary schools must accomplish at least three ends:

1. It must stimulate the instinctive love of plant and flower.
2. It must impart a knowledge of the laws and needs of plant-

growth, both in a state of nature and under the somewhat artificial conditions of farm and garden.

3. It must accustom the child to act upon the promptings that this knowledge will arouse.

These ends can be accomplished in our rural schools, even under our present organization of the school year, if we can secure teachers who know and love the work. It is idle to expect satisfactory results from the mere use of a text-book or from oral lessons by the teacher. Even in the country the children have made few careful observations. Their notions of natural phenomena are vague and indefinite, largely derived from hearsay and colored by prevailing superstitions. There must be outdoor work, and, to accomplish the ends named above, there must be the personal care of growing plants to which the sense of ownership brings added interest and responsibility. Even if the ultimate end of the study is a better agriculture, it is not best to deal exclusively or even mainly with the cereals or forage crops of the farm. The valuable ends can all be secured in the cultivation of flowers and fruits; they are in themselves of greater interest to the children, and offer a greater variety of features for study. The cultivation of flowers does not present so many problems as the propagation and care of fruit trees; but it yields quick returns and appeals more strongly to the interests of children.

Under American school conditions the success of the teacher must depend very largely upon the extent to which he secures the co-operation of the parents in promoting the home gardens of the children. He can interest the children in the work, show how some of it can be done, and give directions for the rest. He probably will be able to show few finished products of the school garden itself. Even if the school garden could be carried on under as favorable conditions as in Germany, it would still be better to interest the children in the beautifying of their own homes through their individual efforts.

The teacher will start a window garden in September, knowing that his geraniums, petunias, salvias, and primroses will perish before Christmas. But the flowers that are started by the

children at home need not freeze. He will teach them how to prepare the soil for the pots or boxes, how to water the plants, to cleanse them from dust, to combat plant lice or fungi. By means of his starting boxes in April he will illustrate proper methods of handling soil and seed to avoid the "damps" and blights that vex the soul of the inexperienced. In the school garden will be found a variety of hardy annuals and an assortment of hybrid roses, cannas, gladioli, and other flowers that need especial attention for the winter. In many localities public sentiment will soon repress vacation vandalism, and see to it that the school garden is not neglected during the summer. Yet even under the most discouraging circumstances it can serve for illustration and instruction in methods of culture. Children may easily be taught budding, grafting, and other modes of propagating fruit trees. Seedlings may be grown at home and at school, the root-grafting at least may be done at school, the grafted stocks set out at home. Better trees can be bought of the nurseryman, but who would ignore the difference to the child?

Along with this plant-study will come a mass of tributary knowledge. The study of soils to determine their behavior toward water, the effects of drainage, the conditions of germination; simple experiments to make clear the necessity of soluble nitrates, potash, and phosphoric acid; the insect life of garden and orchard; the birds and bats, the toads that prey upon it — all are seen in vital relation to the practical activities in which the child is engaged. It need in no way diminish the extent of the course in nature study to give it this practical center about which other knowledge is organized. It has been the method of instruction in the education of the race. The bulk of our knowledge of nature has been discovered and preserved only as it served practical ends.

Horticulture can find a place in our schools only as our teachers become interested and qualified. No normal school should be without an extensive school garden and greenhouse in the hands of a competent florist; its work in biology should deal less with the minute anatomy of tissues, more with the

interrelations of living forms and their environment; and the student should acquire personal acquaintance with the art of the florist and gardener.

Thousands of American farm homes are without flowers in dooryard and garden. The apple, peach, and cherry are, in a majority of cases, the only fruits in the orchard. This condition is not because all the household are overworked. It is not because of indifference. It is usually due to simple ignorance of what to do. The game is surely worth the candle.

DAVID FELMLEY.

ILLINOIS STATE NORMAL UNIVERSITY.

ENGLISH IN ELEMENTARY SCHOOLS.

I.

I AM glad of an opportunity to express a few beliefs concerning the problem of elementary English. At the same time I wish to speak under correction, as one unacquainted with the special problems of method and grading.

In most secondary schools the term "English" covers the instruction given in at least seven subjects: handwriting, spelling, pronunciation, oral reading, English composition, English grammar, and English literature. The secondary-school teachers of subjects other than "English" give very little instruction in English spelling, pronunciation, oral reading, composition, or grammar. There are, fortunately, some shining exceptions. There are teachers of mathematics who see to it that their students can spell the words *mathematics*, *algebra*, *geometry*, *plane*, etc.; there are teachers of physics who demand well-written notebooks; there are teachers of history who require Lincoln's Gettysburg speech to be learned, and repeated with good articulation and expression. But such teachers are exceptions. Most are too busy in getting their students to college to bother much with spelling or handwriting or pronunciation. They will tell you frankly that is a question of the "required amount" of their given subject. The result is that the American student is deficient in those matters which are the external mark of the educated man. The average American student of eighteen has great difficulty in reading aloud a page of English intelligently, or in writing a correct letter.

The case is relatively better in the lower school. The responsibility is assumed by more teachers than in the high school, and there is probably a more general effort to correct the student's oral English. The secondary teacher usually regards the elementary teaching of English as very faulty. Yet very few secondary teachers do as much for the cause as do

the elementary. The best elementary schools certainly try to live up to the doctrine that every lesson should be a lesson in language.

This doctrine has been of the greatest value to American schools. Though liable to abuse, it is surely one of the soundest principles of teaching. The use of language should be acquired as a means to an end, and therefore must always be relatively "incidental." Education becomes real in proportion as the student learns things because he needs them. The infant, or "speechless one," is surprised into a world where he sees and feels, but has no words for his seeings and feelings. It is the business of his parents and teachers to supply him with words, the right words, as fast as he needs them. To respond to his needs with the right words is to teach language, and is always to keep subject-matter and form in their proper relations to each other.

The child's thirst for words is so keen, his memory is so retentive, and his sense of analogy is so strong that there must be "drill" from the very start. He will hear bad English from somebody, and will instantly use it. He will invent preterits which present usage does not recognize. He will surprise you with foreign idioms which he has never heard—will say "it is" for "there is," for example. It passes human wit to know which errors should be drilled out of him at once, and which should be left till his powers of analysis develop; but it is safe to err on the side of too much drill. The time to teach the difference between *lie* and *lay* is when the child is two years old. It can be taught perfectly then, and with less interruption of thought than will ever again be possible. But it must be learned by blind imitation and repetition. The gentle command, "say it," is the chief of all the commandments in teaching language.

There must be great dependence on imitation to a much later stage than we usually dream. A book could be written on the neglect of this principle in secondary and higher education. But especially at the first the arbitrary nature of language must be kept in mind. There can be no logical defense of *lie* for *lay*, or of *brought* for *bringed*, or of *aisle* for *aile*. Language has roots too deep for

searching out. It springs from the rude thinking of savages and peasants. It is a monument of chance as well as of occult physiological laws. It embodies every form of human error. And yet every language is a standard of expression. Its grossest absurdities become right with time, because it is a necessary social institution. The child may no more invent his own verbs than he may invent his own money. And while academies and national associations can clip the end off a word like *programme* (thereby plunging a careless public into a wrong pronunciation), they cannot prevent the printed thing from being called a *program*, or written thing.

As a matter of fact, the average American boy gets through the grammar school with a great number of vulgarisms clinging to him. If he is ever to be cured of saying *lay down* for *lie down*, or *ain't* for *isn't*, it must be by a prolonged and relatively unnatural drill at the hands of some high-school teacher. Whose fault is this? It is apparently that of the home. But is it, or is it not, the business of the elementary school to counteract the influence of the bad English spoken in the home? Sides are taken sharply on this question, but not so sharply as they must be taken within the next few years. For one I side with the minority who believe that the schools are to blame for the illiteracy of their graduates.

Examine the average city school. The classes are enormous, the subjects of study numerous. There is time for very little talking or reading aloud on the part of each pupil. The teacher may use excellent English, and may devoutly believe that power of expression should go step by step with advance in any subject of knowledge; but she can do very little effective teaching. She must keep order in a large room, and when that is done, much of the time is consumed.

A chance to talk and read and write under correction, this is what is needed by a child who is to learn English. More time for oral and written expression can be had by decreasing the size of the class or reducing the number of studies. Decreasing the size of the class is expensive to the taxpayers; but it is the goal to which we must tend and strive. Reducing the number

of studies is a question which admits of a wide discussion, and one may hope, with old Sir Thomas Browne, "of a wide solution." We cannot return to the days of the three R's. There are things even more important for the majority than grammar and spelling: civic honesty, for example, if it could be taught, might well displace moods and tenses. It may possibly be that singing and drawing are, for the majority, more important than good English. At all events, it is time that the real condition of things should be ascertained. The relative value of elementary studies should be discussed with the severest common-sense. And finally the question should be raised whether the children really learn the various studies about which they talk so little. For if language is half the time a nuisance (as when your mother insists on *lie down* for *lay down*, or when your study of calculus outstrips all language), yet for the other half time it is a great builder of thought. The "twofold logos of thought and speech" is one and inseparable. To communicate our notion is to test its reality. To find the right word for an act is often to win a moral victory.

In a second paper I shall speak briefly of the relation of grammar to the problem so stated, and of a few matters of usage toward which a teacher's attitude is important.

E. H. LEWIS.

DEPARTMENT OF ENGLISH,
The Lewis Institute, Chicago.

NATURAL SCIENCE.

WILBUR S. JACKMAN.

DURING the autumn quarter, for first-year students, the work in nature study and geography will be combined. The subject-matter of the combined course in the early part of the quarter will be derived from field study covering various areas that lie within reach of the school. For detailed experimental work in nature study a vacant lot, embracing a city square has been selected for a special survey. Beginning the investigation at the close of the growing period, it will be the general purpose to determine what the work of the season has been, both in variety and in amount, and also to study carefully some of the conditions underlying what has been done.

The nature-study survey of the vacant lot will be conducted under the following heads:

1. *The plant life.*—This will include the collecting of examples of all the different kinds of plants found growing in the area. These will be arranged to illustrate various relationships to each other, to the soil, and to the season. An effort will be made, also, to determine the order in which the plants have invaded the lot, dating back to its marsh conditions.

Experiments will be performed to determine approximately how much mineral and organic matter has been built up by the plants into their own structures during the season. Special study will be made of all the devices by which the plants prepare for winter, such as the fall of the leaf, the distribution and planting of seeds, and the underground habits.

2. *The animal life.*—Similar collections will be made of all animal forms that may be found. The relationships of these to each other, to the soil, and to the season will be carefully worked out. How they secure their food, avoid or conquer their enemies, and how they prepare themselves for the winter, are the fundamental questions about which the study will center.

3. *The soil.*—An investigation of the soil and subsoil to a

depth of two or three feet. This will include an approximate determination of its constituents—mechanical, and some of the more easily found chemical elements. This study will include the determination of the amount of water the soil contains, the amount necessary for saturation, the rate of evaporation, and its capillarity.

4. *Sunshine*.—By means of the skiameter the varying intensity of the sunshine for the different months of the growing season will be determined. The condition of the plants and animals during the different periods will be noted; also, the variation of intensity during different hours of the same day.

5. *Rainfall*.—Taking the records of the weather bureau, calculations will be made of the amount of water received by the plants during the growing season. Comparisons will be made with the average for the past thirty-two years of the Chicago weather bureau's records. Using the new weather chart, the student will indicate in colors the distribution and amount of sunshine and cloudiness during the season.

6. *Temperature*.—This will be taken of both air and soil. The temperature of the latter will be taken at different depths down to about three feet. The results of these observations will be plotted on the weather chart mentioned in (5) above, so that the relations will be quite obvious. From the weather-bureau records the air temperature for the season will be similarly plotted.

In addition to this special study of the area selected, the students will be trained also in the use of the barometer, psychrometer, and the instrument used in giving the direction and in measuring the velocity of the wind. The results of these observations will be plotted on the chart mentioned in (5) and (6), which is so designed as to enable the students to represent them in graphic and compact form.

In addition to the foregoing, each student will paint in water colors a history of the landscape as the season advances. This will require, on an average, perhaps one painting a week. Number work and all the various modes of expression will be used when necessary. Students will be required, also, to prepare

experimental work in physics and chemistry where it is needed to explain such natural phenomena as may occur in the course of their nature study survey.

Later in the quarter this work will be followed by lessons on the winter conditions found outdoors; upon clothing and animal coverings; upon heating, lighting, and ventilating of dwellings; and upon fuels and foods. Outlines of these topics will appear later.

The practice teaching in the elementary school will follow the main lines of study indicated for the pedagogic school. In their plans for teaching, students must show a grasp of subject-matter, and also give evidence of some skill in its adaptation to the particular grade in which the lessons are to be taught

GEOGRAPHY.

ZONIA BABER.

FIRST GRADE.

ACQUAINTANCE with this environment.

AUTUMN QUARTER.

I. Lake Michigan: visit lakeshore; lighthouse; life-saving station; passenger boats; cargo boats; steam- and sailboats; piers. (1) Appearance of Lake Michigan in storm; in calm. Pebbles found on shore. (2) Shipping — fruit, grain, ore, lumber. (3) Aid and protection to sailors: lighthouses — kinds of lights, life of keeper; life-saving station — means of attending wrecks; piers — manner of building, effect of ice on piers; of storms.

II. Farming: visit farm. (1) Harvesting of fruits, vegetables, grain; storehouses — corncribs, haymows, grain bins, cellars, burying. (2) Animals — food of; care; use.

SECOND GRADE.

AUTUMN QUARTER.

I. Harvesting: visit farm. Necessity for the storing of grain, fruit, and vegetables. Modes of harvesting.

II. Lake Michigan: visit lakeshore in calm; during storm. (1) Work of waves in making pebbles and sand; kind of material brought during storm; building of beaches. (2) Sand dunes — visit Dune Park. (3) Swamp — life. (4) Prairie.

III. With hunter life in history: the Eskimo as a typical hunter. (1) Appearance of Greenland in winter — glaciers, snow, sunless; in summer — glaciers, flowers, ice flora, icebergs. (2) Homes — winter house; summer house.

IV. Forests: home of Christmas tree. Logging in forest. Hunting in forest.

REFERENCES: (I) Gaye, *Great World Farm*; King, *Soil*; *Department of Agriculture Transactions*, Vols. XII, XVI, XX, XXIV, XXVII.

(II) Russell, *Lakes of North America*; Davis, *Physical Geography*; Gilbert, *Physical Geography*; Johnston, "Deserts," *Compendium of Africa*.

(III) Mill, *International Geography*, "Greenland," by Nansen; Nansen, *The First Crossing of Greenland*; Peary, *Northward on the Great Ice*; Schwatka, *Children of the Cold*.

(IV) Marsh, *The Wood, Man and Nature*; Andrews, *Louise, the Child of the Western Forest*; Lubbock, *Beauties of Nature*.

THIRD GRADE.

Agriculture — study of farm and farm life.

AUTUMN QUARTER.

I. Fall farming. (1) Threshing — visit farm where threshing can be seen. Threshing of wheat, oats, barley, millet, rice, rye. Modes of threshing — tramping, by men, horses, mules, goats; flail; threshing machines. Pupils thresh wheat, oats, and rice by hand; by tramping; with flail. Stories of regions employing the various primitive means of threshing at present — Japan, Mexico, Palestine, China. Uses of wheat, oats, barley, millet, rice, rye. (2) Corn-harvesting — by husking, cutting, topping. Pupils husk and shock corn. American Indian's manner of corn harvest at present. Maya Indians of Yucatan as a type. Uses of corn — as food; for animals; for man; other commercial products. (3) Autumn planting — pupils plant wheat, oats, corn, rye, rice in garden; note effect of winter. Time of fall planting; why?

II. Farming in forest regions: appearance of evergreen and deciduous forests. Felling of trees; eradicating stumps. Tropical forest — appearance; difficulty of farming in tropic forest.

REFERENCES: "Threshing," *Universal Encyclopædia*; Chamberlain, "Rice," *Things Japanese*; Rein, *Japan*; Williams, *Middle Kingdom*; "Agricultural Machinery," *Iconographic Encyclopædia*, Vol. VI; "The Story of a Grain of Wheat," *St. Nicholas*, Vol. XX, October, 1893; "Farming," *Popular Science Monthly*, Vol. LV; *Forum*, Vol. XV; "Harvesting," *Chamber's Book of Days*, Vol. II, p. 376.

FOURTH GRADE.

AUTUMN QUARTER.

The building of a city; Chicago as a type.

I. Location — on lake; on river; necessity of water highway. Visit harbor, Chicago river; Calumet river, South Chicago. (1) Harbor: method of making and maintaining harbor — breakwaters, dredging. Influence of Chicago river; of Calumet river at South Chicago. Effect of rivers upon harbors by deposition of material. Pupils experiment with running water in laboratory. (2) Canal — necessity of commercial canal; building canal; locks. Visit Illinois and Michigan Canal.

II. Food supply — fruits, vegetables, grains, meats, and other foods: (1) From neighboring truck patches and farms. Visit truck patch and farm. Visit South Water street and large grocery stores. Manner of production of foods grown in this region, as vegetables, plums, apples, peaches, grapes, small fruits, wheat, oats. Meat. Visit Stock Yards to see live animals. (2) From distant farms — sugar, coffee, tea, spices, rice, fruits. Conditions for growth; manner of production. Salt, means of obtaining. (3) From rivers, lakes, and seas — fishes, oysters, crabs, frogs, turtles, lobsters, shrimps. Habitat conditions. Means of culture and catching. Life of fishermen. Visit fish market.

REFERENCES: Kirkland, *Story of Chicago*, 1893; "Chicago as a Grain Market," *Harper*, 1880, Vol. LXI; "Metropolis of the Prairies," *Harper*, 1880, Vol. LXI; Warren, "Studies of the Great West," *Harper*, 1887-88, Vol. LXXVI; Russell, *Lakes of North America*; Russell, *Rivers of North America*; Davis, *Physical Geography*; Salisbury and Alden, *Chicago and its Environs*; Adams, *Commercial Geography*; "History of Canals," *Knight's American Dictionary*; "Canals," *Universal Encyclopædia*; "Canals," *Iconographic Dictionary*; Blackie, *Tropical Readers*, 1, 2; Thorp, "Sugar," *Industrial Chemistry*; "Beet Sugar," *Report of the Department of Agriculture*, 1897; Annual Reports of the Department of Public Works of Chicago.

FIFTH GRADE.

AUTUMN QUARTER.

North America interpreted through Chicago and its environs.

I. Lake Michigan, waves and currents: (1) Building coast: visit south shore and Dune Park. Beach ridges; sand bars, sand spits, sand dunes: associated lagoons; movement of dunes; means of overcoming movement. Building coasts of North America; locate sand-dune regions; account for position. Locate coastal plain of North America—formation and appearance of coastal plain; value for culture. (2) Wearing coasts: visit north shore. Formation of sea cliff, sea cave, terraces. Locate cliff coast of North America. Formation and extent of continental shelf. Effect of secular rising and sinking upon coast lines. Coast best adapted for good harbors; locate good harbors of North America.

II. Rivers: work; use. Visit ravines at north shore; Des Plaines river; Calumet river near Thornton. Formation of valley—young, mature, old; falls, rapids, terraces, flood plain, delta. In out-of-door laboratory pupils solved problems of stream degrading and aggrading.

REFERENCES: Davis, *Physical Geography*; Tarr, *Physical Geography*; Gilbert, *Physical Geography*; Mill, *Realm of Nature*; Mill, *International Geography*; Gilbert, "Henry Mountains," *U. S. Geologic Survey*; Salisbury and Alden, *Chicago and its Environs*; Russell, *Lakes of North America*.

SIXTH GRADE.

In connection with the study of the American revolutionary war, a special study of that part of North America intimately concerned; with the study of the struggle for freedom of the Greeks, Swiss, and Dutch, special study of that part of Europe involved. Through interest in current events, a study of West Indies, volcanoes, mountains, the Orient. Interpretation of this environment.

AUTUMN QUARTER.

I. Eastern United States and St. Lawrence river basin: (1) Topography—mountains, hills, valleys, plains. Effect of topography upon cultural

development. (2) Rivers—stage of erosion; influence on cultural development of region. Visit north shore, Calumet river near Thornton, Des Plaines river. Special study of Hudson river, St. Lawrence river, Delaware river. (3) Glaciers—effect upon eastern United States and Canada. Visit Barrington, Ill.; Stony Island. (4) Harbors along Atlantic coast; effect of coast line upon cultural development. (5) Climate. Study daily weather maps of United States: movements of storms; seasonal changes; make record of weather condition of Chicago.

II. West Indies: location—position in regard to North America, South America, Europe. Value of geographic position. (1) Greater Antilles—position; topography; mountains—direction of ranges in relation to mountains of North America, South America, Central America. Mountain-making—process of mountain formation. Make folded mountains in laboratory. Coral growth—conditions of temperature, relation of reefs to main land. Climate—temperature, prevailing winds, rainfall. Product—sugar cane, tobacco, tropic fruits. (2) Lesser Antilles—location; formation; volcanoes; condition during eruption; effect of lava flow; effect of eruption of ash and gas. Earthquake association—tidal waves. Most important islands of the Lesser Antilles.

REFERENCES: Mill, *International Geography*; Davis, *The Physical Geography of Southern New England*, "National Geographic Monographs;" Willis, *Appalachian Mountains, Northern Section*, "National Geographic Monographs;" Hayes, *Appalachian Mountains, Southern Section*, "National Geographic Monographs;" *Compendium of North America*; Davis, "Rivers," *Physical Geography*; Shaler and Davis, *Glaciers*; Lubbocks, *Beauties of Nature*; Geikie, *Great Ice Age*; Shaler, "National History of Harbors," *Geol. Surv.*, 13th Ann. Rept., 1893.

West Indies: Hill, *Cuba, Jamaica and Porto Rico, with Other Islands of the West Indies*; Hill, "Geology of Cuba," *Bulletin*, Vol. XVI, No. 15, Museum of Comparative Zoölogy, Cambridge; Hill, "Geology of Jamaica," Vol. XXXIX, *ibid.*; Hearn, *Two Years in the West Indies*; Patton, *Down the Islands*; Kingsley, *Westward Ho! and At Last*; "Cuba," *National Geographic Magazine*, May, 1898; "Martinique," *National Geographic Magazine*, July, 1902; "Martinique," *Century Magazine*, September, 1902.

SEVENTH GRADE.

Through the interest in this environment, current events and historic study of crusades, Marco Polo, and the period of exploration—a study of Eurasia, Africa, North and South America, and the beginning of mathematical geography. Make contour map of Stony Island.

AUTUMN AND WINTER QUARTERS.

I. A detailed study of the geographic types found in accessible region as Stony Island; sand dunes; lakeshore; river basins, as to genesis and influence upon life.

REFERENCES: See fifth and sixth grades.

II. Eurasia: a detailed study of region traversed by crusaders and by Marco Polo.

REFERENCES: See sixth grade.

III. Africa: terrestrial position; relation to eastern continental mass; size; influence upon development. Coast line; influence of regular coast line upon cultural development. (1) Highlands—plateaus, mountains; influence of the continental and minor plateaus upon life-development; poverty of well-defined mountain ranges compared with other continents. (2) Drainage—Nile river basin; Niger river basin; Congo river basin; Orange river basin; Zambezi river basin; Limpopo river basin; effect of the youthful state of erosion of African rivers upon its present state of civilization. Special study of the Nile river basin; location; source of river; cataracts, cause; flood plain, delta, value to Egypt; inundation of Nile, value of barrage; cause of overflow—influence of Abyssinian plateau and the lake region. (3) Climate—temperature, influence of the high continental plateau. Latitudinal influence. Winds, regular and monsoons; rainfall. (4) Deserts—Sahara, size; cause; influence upon remainder of continent, upon southern Europe. Surface; oases; products. (5) Morocco, Algiers, Tunis, Tripoli—topography; climate; products. (6) Soudan and central Africa—topography; climate; natural products; people. (7) Southern Africa—cause of advancement in colonization; location; topography; climate; natural products; people. (8) Distribution of European colonial possessions; of native states, account for position of each. Cause and result of late south African war.

REFERENCES: Keane, "Africa," *Stanford's Compendium*; Mill, *International Geography*; Keltie, *Partition of Africa*; White, *Development of Africa*; Reclus, *Earth and its Inhabitants*; Mill, *Realm of Nature*; Broderick and Sayce, *Murray's Handbook for Egypt*; Milner, *England in Egypt*; Johnston, *British Central Africa*; Drummond, *Tropical Africa*; Johnston, *The Congo River*; Stanley, *The Congo Free State*; Noble, *Illustrated Official Handbook of the Cape and South Africa*; Whiteside, *A New Geography of South Africa*; Wallace, *Farming Industries of Cape Colony*; Bryce, *Impressions of South Africa*.

EIGHTH GRADE.

The earth, the stage of human action. With history, special study of Europe, southwestern Asia, and northern Africa. With current events, geography of the earth.

AUTUMN AND WINTER QUARTERS.

I. The earth—distribution of continents; islands; oceans; value of present arrangement; other positions which might seem an improvement for present state of civilization. (1) Australia—position; relation to regions of advanced civilization; physical features, arrangement of mountains; plains, conse-

quent drainage basins; climate, temperature, cause; rainfall, deficiency, cause; simple geologic story; political conditions; cities. Australia's influence upon United States. (2) Islands — distribution of oceanic, continental; formation. Considering present position of human progress, would a different distribution of islands be advantageous? Effect were many islands located in Atlantic between North America and Europe. Suppose Polynesia were moved to northern Pacific, effect. Distribution of coral islands — special study of Bermuda and Marshall Islands as types. Distribution of volcanic islands; study Hawaii as a type. Present international interest in islands; islands of special interest to the United States, value to United States; special study of Cuba, Porto Rico, St. Thomas, Philippines. (3) Highlands — mountains and plateaus of the earth; distribution of highlands of continents of the earth; influence of highlands upon cultural progress of various continents. Distribution of lowlands; influence upon state of civilization of various continents. (4) Rivers and lakes — distribution of great lake regions and large rivers of the world; formation and destruction of lakes. Rivers best adapted for navigation; influence of such on region traversed. Means of making a river navigable; river's means, man's ways; ways of changing a navigable to an unnavigable stream; natural way, man's way. Distribution of large rivers which are not navigable — causes; effect on country traversed; upon topography; upon life; cultural value of a river in youthful stage of erosion; genesis and death of falls; noted falls which are at present being utilized. Distribution of flood plains and deltas of the world; present importance to society; historic value; genesis of flood plains and deltas. (5) Glaciers — distribution of existing glaciers of earth; cause for location; movement and work of glaciers. Areas influenced by continental glaciers; effect of results of past glaciation upon present culture development; influence of present glaciers upon life of environment; scenic value. (6) Volcanoes — distribution of the earth's volcanic belts; extent of recent seismic disturbances; describe eruption of Montagne Pelée, Vesuvius, Krokatoa, Mauna Loa, H. I.; theories of origin of volcanoes; value of volcanoes. (7) Climate — analysis of climatic control in this region; change of temperature, cause; change of direction of wind, cause; rainfall, cause. Terrestrial winds, regular and monsoon's relation to terrestrial "high" and "low" pressure; to heat; to moisture. Rainfall — cause of unequal distribution; regions of great rainfall, of medium rainfall, of little or no rainfall; influence of each region upon present social conditions, upon primitive peoples. Influence of heat and moisture tension areas upon present and past human development.

REFERENCES: Mill, "Australia," *International Geography*; Barton, *Outlines of Australian Physiography*; Ranken, *Federal Geography of British Australasia*; *Compendium of Australasia*; Gordon and Gatch, *Australian Handbook*; Saville-Kent, *The Great Barrier Reef of Australia*; Reclus, "Australia," *Earth and its Inhabitants, Oceanica*; Davis, "Islands," *Physical Geography*; Lubbock, "Coral Islands," *Beauties*

of Nature; Reclus, *The Ocean*; Wallace, *Island Life*; Forbes, *Naturalist in Eastern Archipelago*; Dana, *Coral and Coral Islands*; Darwin, *Bermuda*; Agassiz, *A Visit to the Bermudas in March, 1894*; Heilprin, *The Bermuda Islands*; Rice, "Bermuda," *National Bulletin*, No. 25; Mill, "Marshall Islands," *International Geography*; Dutton, "Hawaiian Volcanoes," *U. S. Geol. Surv.*, 4th Ann., 1882-88; Alexander, "Hawaii," *Islands of the Pacific*; Dana, *Characteristic Volcanoes*; Bishop, *Hawaiian Archipelago*; Maxwell, *Lavas and Soils of Hawaii*; Judd, *Volcanoes*; Hull, *Volcanoes*; Davis, "Mountains," *Physical Geography*; Reclus, *History of a Mountain*; Hutchinson, *Story of the Hills*. (For rivers and glaciers see references for sixth and seventh grades.) Davis, *Elementary Meteorology*; Waldo, *Elementary Meteorology*; Geikie, *Physical Geography*; Ferrel, *Popular Treatise on Winds*.

HISTORY IN THE ELEMENTARY SCHOOL.

EMILY J. RICE.

KINDERGARTEN.

REPRODUCTION of home life by means of plays. Building of playhouses with blocks, and making of furniture with cardboard, raffia, and wood.

Visits to farms, shops, and buildings in the process of construction.

Dramatization of neighborhood activities, as the life of the fireman, the postman, and the newsboy.

Literature.—Stories of home life and of household work ; fairy stories.

REFERENCES: *Elementary School Record*, No. 5; ELEMENTARY SCHOOL TEACHER, Vol. II, Nos. 4, 5, 6.

FIRST GRADE.

Making of playhouses. For each child a box will be furnished, twenty inches wide, fifteen inches high, and ten inches deep, and divided by a partition into two floors. The children will divide each floor into two rooms, cut windows, make staircases, and decorate walls.

Observation of modern house-building, and visits to the Field Columbian Museum, to see primitive houses. Study of primitive industries: Indians, cliff-dwellers, Eskimos, Arabs.

Construction of furniture with cardboard, wood, and raffia, rug-weaving in raffia and wool, and making of pottery. Study of materials used.

Planning of village and playing at buying and selling. Interchange of commodities and division of labor. Play with finished village.

Literature.—Stories of industry and invention ; myths and fairy stories.

REFERENCES: Viollet-le-Duc, *Homes and Habitations of Man in All Ages* ; Morgan, *Houses and House Life* ; Starr, *Some First Steps in Human Progress* ; Mason, *Origins of Invention* ; Tyler, *Anthropology* ; Harwood, "The Story of a Pine Board," *St. Nicholas*, Vol. XXV, p. 20.

SECOND GRADE.

Spinning, dyeing, weaving, and simple needlework as occupations.

Primitive processes in the textile industry. Shepherd life : property in flocks and herds ; wanderings ; social organization ; the patriarch ; dwellings ; spinning and weaving ; clothing ; exchange. Stories of the Hebrews and of the Arabs.

Hunter life : food-getting ; fire-making ; shelter ; tools ; utensils ; clothing ; social organization. Stories of the Indians.

Beginnings of agriculture, trade, and navigation.

Literature.—Stories from the Bible ; Baldwin, *Old Stories of the East*,

and "Arachne," from *Old Greek Stories*; Andrews, *Seven Little Sisters*; Waterloo, *Story of Ab*; Emerson, *Indian Myths*.

REFERENCES: Mason, *Woman's Share in Primitive Culture*; Doughty, *Arabia Deserta*; Sven Hedin, *Through Asia*; Mumford, *Oriental Rugs*; Holt, *Oriental Rugs*; "A Suit of Clothing," *Harper's*, Vol. LXXX (1890), p. 685; Joly, *Man before Metals*; James, *Indian Basketry*.

THIRD GRADE.

Occupations: cooking, gardening, and making pottery. Visits to farms and shops.

Study of materials used in cooking and of methods of production as seen at farms. The city as a center for distribution. Means of transportation. Settlement of a western farming community. Story of Abraham Lincoln.

History of agriculture. Methods of obtaining food with primitive tools. Development of the plow and of the mill. Primitive methods of cooking and of making pottery.

Flax and cotton culture. Agriculture in ancient Egypt.

Literature.—Stories from the *Odyssey*; Cook, *The Story of Ulysses*; Hawthorne, "The Pomegranate Seeds," *Tanglewood Tales*; *Story of Luca della Robbia*, and of *Palissy the Potter*; Ouida, *The Porcelain Stove*.

REFERENCES: "Agricultural Machinery," *Iconographic Encyclopædia*, Vol. VI, p. 177, plates 1-8, 56-60; Abbott, *Primitive Industry*; Small and Vincent, "The Family on the Farm," *An Introduction to the Study of Society*; Binns, *The Story of the Potter*; Wilkinson, *Ancient Egyptians*, Vol. II, pp. 377-429; Chase and Clow, *Stories of Industry*; *The Odyssey* (translated by Palmer).

FOURTH GRADE.

Inventions that have developed means of intercommunication: printing, books, boats, railways. Stories of famous explorers: Marco Polo, Columbus, Magellan.

Necessities of city life: water-supply; illumination; streets; bridges; protection—fire, police, sanitation.

The early history of Chicago: French explorers, Marquette and Joliet, La Salle; Fort Dearborn; village life.

Art: making of boats, cars, roads, bridges, in wood and metal work.

Literature.—Viking stories; Baldwin, *Story of Siegfried*; Kipling, "The Ship that Found Herself," *The Day's Work*; Howells, "The Pony Engine," *Christmas Every Day in the Year*; Catherwood, *Story of Tonty and Heroes of the Middle West*; Kipling, *Jungle Book*.

REFERENCES: Seelye, *Columbus*; Fiske, *Discovery of America*; Payne, *History of America*, Vol. I; Brooks, *Marco Polo*; Yule, *Marco Polo*; Knox, *Marco Polo*; "Fergus Papers," Chicago Historical Society; McMurry, *Pioneer History Stories*; Hinsdale, *The Old Northwest*; Winsor, *The Mississippi Basin*; Parkman, *La Salle and the Great West*; Baldwin, *The Conquest of the Old Northwest*; Parton, *Captains of Industry*; Bross, *History of Chicago*; Moffatt, "Careers of Danger and Daring," *St. Nicholas*, Vol. XXVIII.

FIFTH GRADE.

Observation of the methods of cloth manufacture at the present time. Making of looms and weaving of useful articles. Weaving on colonial loom.

History of inventions in the textile industry. Home life in colonial times. A New England farm and village. Effects of physiographic features upon industries and social life. Stories of the pioneers. The town-meeting.

A Virginia plantation contrasted with a New England farm. Geography of the tide-water region.

The Dutch settlements in New York and the geography of the Hudson river valley. Movement of the pioneers toward the West. Routes and methods of travel.

Literature.—Longfellow, *Miles Standish*; Austin, *Standish of Standish*; Hawthorne, *Grandfather's Chair*; Harris, *Nights with Uncle Remus*; Irving, *Rip Van Winkle*, *Sleepy Hollow*, *Knickerbocker History of New York*.

REFERENCES: Earle, *Home Life in Colonial Days*; Smith, *Colonial Days and Ways*; Fiske, *The Beginnings of New England, Old Virginia and Her Neighbors, The Dutch and Quaker Colonies*; Weeden, *Economic and Social History of New England*; Bruce, *Economic History of Virginia in the Seventeenth Century*; Doyle, *English Colonies in America*; Lodge, *Short History of the English Colonies*; Eggleston, *Beginners of a Nation*; Page, *The Old South*.

SIXTH GRADE.

The union of the colonies and their struggle for freedom. The geography of the Atlantic seaboard in its relation to the Revolutionary War. Typical stories of heroic action.

Other stories illustrating patriotism and courage. The Greek wars against Persia. The city of Athens. Greek education and games. Our civic buildings and their decorations.

The Swiss struggle for independence. William of Orange and the siege of Leyden.

Art: Modeling and casting of tiles illustrative of colonial history. Reproduction of Greek buildings in clay and wood.

Literature.—Longfellow, *Paul Revere's Ride*, *Building of the Ship*; Emerson, *Concord Fight*, *Boston Hymn*; Holmes, *Grandmother's Story of Bunker Hill Battle*; Cooper, *The Last of the Mohicans*; Kaufman, *Our Young Folks' Plutarch*; the *Iliad* and the *Odyssey*; Browning, *Pheidippides*.

REFERENCES: *The War of Independence, The American Revolution*; Lodge, *The Story of the American Revolution*; Tyler, *The Literary History of the American Revolution*; Guerber, *The Story of the Greeks*; Guhl and Köner, *The Life of the Greeks and Romans*; Mahaffy, *Old Greek Education*; Whitaker, "Young Greek Boys and Old Greek Schools," *Popular Science Monthly*, Vol. LXXX, p. 809; Motley, *Rise of the Dutch Republic*.

SEVENTH GRADE.

Printing, illuminating, and bookbinding the special occupations of the grade.

Invention and history of the art of printing. History of bookbinding. Illuminated manuscripts. Rarity of books in the Middle Ages and teaching by means of pictures. Mural decorations. Giotto's paintings of St. Francis of Assisi. The city of Venice. Renaissance art.

The Crusades. Routes of trade from Venice eastward and northward. Nuremberg. Marco Polo. Explorations of Prince Henry of Portugal. Columbus. Magellan.

The westward movement of the American colonists. The Appalachian barrier and routes of travel across it. Settlement of Kentucky and the Northwest Territory. A typical settlement. The city of Washington. Improvement in modes of transportation. The cotton industry and the unification of the South. The mining industry and the Far West. Industrial development since the Civil War.

Literature.—Aldrich, *Friar Jerome and His Beautiful Book*; Longfellow, *The Sermon of St. Francis*, *Giotto's Tower*, *Nuremberg*; Scott, *Ivanhoe*, *The Talisman*, *Marmion*; Tennyson, *Idylls of the King*; Lanier, *The Boys' King Arthur*.

REFERENCES: Buchot, *The Book*; Putnam, *Books of the Medieval Ages*; La Croix, *The Arts of the Middle Ages*; Labarte, *Illustrated Handbook of the Arts of the Middle Ages*; Winsor, *Narrative and Critical History of America*; Fiske, *Discovery of America*; Payne, *History of America*, Vol. I; Sparks, *Expansion of the American People*; Roosevelt, episodes from *The Winning of the West*; Roosevelt, *The Winning of the West*; McMaster, *History of the People of the United States*; Schouler, *History of the United States*; Wright, *Industrial Evolution of the United States*; Turner, "The Significance of the Frontier in American History," *Fifth Yearbook of the National Herbart Society*, 1899.

EIGHTH GRADE.

Roman history with the study of Latin. Development of the Roman republic.

Current history leading to the study of international relationships and world-geography.

In connection with home economics, which furnishes the special occupation for the grade, study of the house and its evolution. Care of school building and grounds. Investigation of city building laws and parks and playgrounds.

Literature.—Macaulay, *Lays of Ancient Rome*; Shakespeare, *Julius Caesar*; Whittier, *Snowbound*; Lowell, *The Vision of Sir Launfal*; Longfellow, *Keramos*; Holmes, *The Chambered Nautilus*.

REFERENCES: Harding, *City of Seven Hills*; Guerber, *Story of the Romans*; Mommsen, *History of Rome*; Gardner, *Houses and All about Them*; Cook, *The House Beautiful*; Wharton and Codman, *Decoration of Houses*; Wheeler, *Household Art*; *The Studio*; *The House Beautiful*; *Revised Code of Chicago*; Campbell, *Household Economics*, p. 20; Courier, *Practical Hygiene*, p. 140; Tsanoff, *The Playground Movement*; "Housing Problems in Cities," *Municipal Affairs*, March, 1899.

MATHEMATICS IN THE PROFESSIONAL SCHOOL.

GEORGE W. MYERS.

THE outlines which follow are intended only for the work of the professional school. The nature and scope of the mathematical work in the elementary school may be learned from the grade teachers' outlines to be published next month.

The need of the prospective mathematical teacher endeavoring, by a study of modes of presenting his work to pupils, to select and use only the best methods, has been warmly contested by good educational authority, but it is now generally conceded to be a part of his professional duty. The claim that a knowledge of subject-matter is all that is needed to insure professional efficiency in the mathematical teacher is nowadays confined, for the most part, to those whose preparation for professional service has been more or less faulty, and to the born teacher. The latter type is, of course, incapable of improvement, inasmuch as man cannot presume to improve upon the work of God. Strange to say, however, even the teachers by divine right are learning that native skill may be heightened by the right sort of training, while mere practice, unguided by trained intelligence, may go far to destroy heaven's handiwork.

If, however, the need of professional training for the teacher in general be conceded, it must be conceded to exist with twofold urgency for the teacher of elementary mathematics. Every argument for pedagogical study which applies to subjects in general applies with full force to mathematics. Furthermore, the teaching of no subject seems so prone as is mathematics to degrade into a sort of mere device-exemplifying and device-parading practice. The science which treats of the *form* of knowledge, it easily falls prey itself to a dead formalism. Of all the school subjects, sciences, or literatures, mathematics, therefore, is the most likely to fall under a system of mechanical routine. Hence it is the most difficult subject to present in such way as to call for the exercise of the reasoning faculties.

Moreover, unless mathematics can be so presented as to do this at every step, it loses its claims to a place in education. This is true, notwithstanding the fact that "mathematics is the science of *pure* reason," "the science of necessary conclusions," etc., because the *manner* of teaching a mathematical subject is even more important than the *matter*.

Form is many-sided; it presents many aspects to study. Mathematical subjects are, consequently, capable of a many-sided treatment. The prevailing idea that the whole problem of mathematical teaching can be given in a nutshell is very alluring, but very incorrect. In the course of years, mathematical teachers, who cater to *teachers* rather than to *teaching*, succeed in agglomerating their devices into a sort of plum-pudding composite which is very enticing to uneducated tastes. This has been the bane of mathematical teaching and the pitfall of the indiscriminating candidate for mathematical preferment. The pedagogical result of such practice is a crop of artificial devices reduced to text-book form, and labeled by the inventor a new method, calculated to revolutionize mathematical teaching. The professional outcome is a host of young teachers foisting fragmentary and second-hand notions of number upon children. The work done by this artificial product must all be undone later by such pupils as remain in school, while sound and complete notions of number must be implanted at a later period; but this is no check to the deviceful pedagogue, and so the unwholesome product grows on apace.

The situation cannot grow better in the elementary school until teachers cease laboring more diligently to evade a thorough grounding in both mathematical subject-matter and methodology than is necessary to master the whole field. Less method, and at the same time more method; less arithmetic, and more arithmetic, are the crying needs of even the best elementary schools of today. Method of the right sort, method built upon a sound knowledge of the subject, has promise in it; but without this foundation in knowledge it is, in many respects, worse than an entire lack of it. May the day speedily come when the proper sequence of subjects for the training teacher shall be

recognized by us all, and when the proper balance between scholarship and pedagogical training shall be struck!

The work of the first course outlined below will be academic. It will proceed on the assumption that suitable problems, dealing more with the affairs of modern life and less with pure imagination, promise more for the improvement of the teaching of arithmetic than do device-hunting and device-formulating. A notion of the subjects from which problems will be drawn may be derived from the list below. The character of these subjects will suggest the importance of teaching the pupil of arithmetic, among other things in the way of process and operation, also how arithmetic may be used to assist in the study of almost any subjects he may care to learn, and how and why it is that a good degree of arithmetical proficiency will be of service in any pursuit of life.

TOPICS FOR PROBLEMS.

- | | |
|------------------------------------|--|
| 1. Simple scale drawing. | 18. Sun spots. |
| 2. City blocks and lots. | 19. Barometer. |
| 3. Paving streets. | 20. Levers, etc. |
| 4. House and furnishings. | 21. Graphical representation. |
| 5. Cost of living. | 22. Statistical studies. |
| 6. Farm account keeping. | 23. Geometrical surveying. |
| 7. Dairy farming. | 24. Time, latitude, and longitude. |
| 8. Habits of animals. | 25. Domestic science. |
| 9. Growth of twigs. | 26. Laboratory work. |
| 10. Vital statistics (death-rate). | 27. Observational astronomy. |
| 11. Physical measurements. | 28. Elementary algebra. |
| 12. Manual training. | 29. Changing slant of sun's rays. |
| 13. Wind pressure. | 30. Graphical representation of equations. |
| 14. Snow loads on roofs, roofing. | 31. Graphical representation of physical laws. |
| 15. Thermometry. | 32. Steam engine. |
| 16. Meteorology. | |
| 17. Nov. meteors. | |

Teachers will be required to select topics from this list and prepare sets of problems of such character as to build up a knowledge of the subject in the learner's mind.

The result will be sets of problems bearing on a single subject, each problem being a step in the process of unfolding the subject to the child. They will be miscellaneous as to process, and at the same time organically related as to thought-content.

In accordance with what has just been said, the mathematical course for the autumn quarter is academic in character and is to be followed during the winter by a pedagogical course based upon it. The class work in mathematics during the autumn will follow the lead of the other subjects so far as this is feasible. Essential requirements for substantial mathematical work are connectedness and continuity. To secure these desiderata the development of the course will also have a trend and unity of its own, the material for problems drawn from the work in the other subjects being organized and handled in an orderly and systematic way with reference to mathematical content. The right sort of correlation of subjects does not mean haphazard work, though too often it degenerates into an aimless scattering of the pupil's energy.

OUTLINES.

The mathematics of the professional school for the year will be given in three courses:

- I. An academic course in elementary mathematics.
- II. Pedagogy of elementary mathematics.
- III. Pedagogy of secondary mathematics.

These courses will succeed each other in the order of this enumeration.

The first of the three courses will include a survey of the mathematical topics which should be taught in a modern elementary school, together with a detailed study of such of these topics as time and circumstances will permit. The course having been planned primarily for teachers whose mathematical training has been faulty, or whose mathematical equipment is in need of a little burnishing, it will call for considerable real work in the solution of practical and modern problems. The plan of work will consist in the assignment to individual teachers of topics such as are enumerated a few paragraphs above for study and report, the teacher being required to make use of such arithmetic, algebra, or geometry as is needed to make the topic intelligible to children. The report will be criticised and discussed, then returned to the teacher for correction, if necessary; when satisfactory, the teacher may present it to a class. The

object of such work is evidently to train teachers in the preparation of material of their own for mathematical teaching, as well as to convince them, and indirectly pupils also, that mathematics will assist one in the achievement of almost anything he deems important in life. It means the teaching of arithmetic less for its own sake and more for the sake of the pupil's education. It means in a sense that mathematics is being subordinated to the demands of the other subjects and to the needs of the pupil; but this is not the only instance in which a science must for a time lose sight of its own interests that it may truly find them. In short, the aim will be to make the mathematics helpful to the other work—or rather to the pupil's educational interests—as a whole, but still to keep the work mathematical in its method and spirit.

The autumn quarter's work will be discussed and, so far as the foregoing plan will admit, will be presented under three subordinate headings: In October, "Mathematics of Grades 1, 2, and 3;" in November, "Mathematics of Grades 4, 5, and 6;" in December, "Mathematics of Grades 7 and 8."

The outlines which follow are not intended to indicate more than the general scientific and pedagogic principles in accordance with which the specific work of the class will be organized and administered. Perhaps the idea of the outlines can be best conveyed by the statement that they are intended to indicate only the order of ideas emphasized in the evolution of the numbering and relating faculties of the child.

A. OCTOBER OUTLINE.

- I. Indefinite comparison of lines, surfaces, solids, and general objects.
- II. Counting, numbering, crude measuring.
- III. Definite comparison of lines, surfaces, etc.
- IV. Measurement—direct and indirect; (1) linear, (2) surface, (3) solid, (4) weight, (5) time, etc.
- V. Addition and subtraction of whole numbers from 1–12.
- VI. Relating of (*a*) measured magnitudes, (*b*) of quantities.
- VII. Multiplication by 5; by 2; by 10.
- VIII. Division facts correlative with these multiplication facts.
- IX. Standard units and tables used: (1) cubic, liquid and dry measure, (2) weight, (3) United States money, (4) time.

X. Beginnings of addition, subtraction, multiplication, and division as arithmetical operations.

XI. Elementary uses of arithmetic.

XII. Addition and multiplication tables completed in the order the 4s, 11s, 12s, 3s, 6s, 9s, 8s, and 7s.

PEDAGOGICAL COURSE.

This course will take up a careful study of the principles in pursuance of which the work of the foregoing was planned. It will consider the place, kind, amount, and relation of the mathematics of the elementary school. It will enter into the psychology of number work to such an extent as the attainment and maturity of the class warrant.

Some knowledge of the way in which arithmetic, algebra, and geometry have come into their present place and relation in the curriculum is needed by every teacher of mathematics who aspires to some degree of proficiency in his work. Something of the history of the aims and purposes of elementary mathematical study will therefore be given.

The subject-matter of the course will be distributed and taken up under these heads:

- A. History of elementary mathematical teaching.
- B. Methodology of current teaching.
- C. Psychology of elementary mathematics.

ADDENDUM.

Proposed course for special teachers in mathematics and for mathematical supervisors:

REQUIRED WORK.

| | | Two-Year Course. | Three-Year Course. |
|--------------------------------|-----------|------------------|--------------------|
| Mathematics | - - - - - | 6 Mj. | 8 Mj. |
| Nature study | - - - - - | 1 Mj. | 2 Mj. |
| Geography | - - - - - | 1 Mj. | 2 Mj. |
| Geology | - - - - - | 0 | 1 Mj. |
| Domestic science, or chemistry | - | 1 Mj. | 1 Mj. |
| Physics | - - - - - | 1 Mj. | 2 Mj. |
| Astronomy | - - - - - | 1 Mj. | 1 Mj. |
| Surveying and navigation | - - - | 0 | 1 Mj. |
| Psychology and education | - - | 2 Mj. | 4 Mj. |
| Total | - - - - - | 13 Mj. | 22 Mj. |

This scheme of courses is arranged to meet the needs of two classes of persons: (*a*) those who can afford the time (three years) necessary for thorough preparation for mathematical teaching in the public schools below university grade; and (*b*) those who can spare but two years for preparation.

In either of the courses five majors may be elected from any courses in schools or departments of the university for which the candidate is prepared.

Two of the six mathematical majors of the two-year course and three of the eight majors of the three-year course must be taken in the School of Education.

HOME ECONOMICS.

ALICE P. NORTON.

THE experience of the past year has shown that the work in cooking is particularly valuable in two directions: it aids in the social life of the school, and it suggests many problems in science and number, and furnishes a strong motive for their solution. The work for this year is planned largely with these immediate objects in view; the ultimate aim is always to bring the children into closer touch with their home life, and to make them more efficient citizens.

It must be remembered that the cooking and the work growing out of it represent by no means all that is done in the school in home science. From the kindergarten up, much of the work in history, sociology, and nature study pertains to the life and occupations of the home.

The responsibility for the orderliness and neatness of the schoolroom that is enjoined, and the care of desks and personal belongings asked of the children, involve the teaching of many of the principles of housekeeping. Every opportunity afforded by the daily recurring needs of the school, or by emergencies which arise, is utilized. The removal of the ink accidentally spilled upon the floor, for example, or of the scratch made on the polished surface of the desk, furnishes a reason for lessons on the care of woods, and makes such lessons more valuable because the necessity for them is seen.

Because of the difficulty of foreseeing the nature of this kind of work the outline given is chiefly for the cooking, since that can be more definitely planned.

The work of each year involves experience with the different food principles; the making of recipes; the solving of the number problems that arise; experiments to illustrate the principles of cooking, or to prove or disprove disputed points. In the primary grades number and reading are important accessories

of the cooking lesson, while in the upper grades the science problems predominate. The thermometer is used freely in all the grades, and the microscope is frequently brought into use with the older children. In all the grades cooking for luncheons, and for special occasions such as Thanksgiving and Christmas, makes an important part of the work.

KINDERGARTEN.

No regular time is assigned for cooking in this grade, but the children make cookies for birthdays, simple candies for Christmas, and do such other work as occasion demands.

FIRST AND SECOND GRADES.

Work is chosen for these grades that requires comparatively little manipulation. The processes used are simple, and the judgments required are of an elementary nature. The work is nevertheless based on the fundamental scientific principles of observation and experiment.

In the first grade the work will consist, in part, of the drying of fruit for winter use and of the cooking of dried fruits; the baking of apples and of potatoes; the popping of corn and making of barley candy for Christmas; the toasting of bread; preparing a baked custard; and the making of cocoa for luncheons.

The second grade will roast apples and potatoes in an oven constructed by themselves out-of-doors; will make apple jelly; boil potatoes and rice; pop corn and make it into corn balls; make cream candies for Christmas; prepare lemonade for a party; cook eggs in some form; and make cocoa.

THIRD GRADE.

As in all the grades, the first work in the fall will be with the fall fruits, and grape jelly and grape juice will be prepared by this class. The work of the year will be chiefly carried on in connection with the study of the farm and of farm life. The cooking of cereals, the making of wheat bread, the use of flour in thickening—illustrated by the making of white sauce, and the combination of this with vegetables, as tomatoes, potatoes, celery, in soups for luncheon—will constitute a large part of the

work. More problems to be solved will occur in this grade, and will lead to the separation of the gluten from flour, and the baking of it, and to simple experiments with yeast and with starch.

FOURTH GRADE.

The children of this grade will prepare for winter by canning tomatoes grown in their own garden. In connection with their study of some of the industries of Chicago they will work especially with milk and milk products. They will make butter, sour-milk cheese, and rennet custard. They will also study albumen in egg and in meat, and like the third grade, will prepare soups for luncheon.

FIFTH GRADE.

The cooking in the fifth grade will be largely illustrative of the work in colonial history. The typical dishes of New England and of the southern colonies will be reproduced to some extent. Pumpkin for the Thanksgiving pies will be prepared and fruit canned for the winter. Vinegar will be made from apple juice, and will be used in preserving fruit by means of pickling, and in making vinegar candy for Christmas.

SIXTH GRADE.

The fruit cookery will consist of the canning and preserving of different fruits in different ways. Experiments with the keeping of fruits under different conditions will lead to the beginning of the study of fermentation. This will be followed by work with doughs and batters, and methods of lightening them. Bread, cake, and pastry for the Thanksgiving pies will be included. The study of fermentation begun with the fruits will be carried farther in connection with the use of yeast in bread-making. Some of the properties of carbon dioxide will be considered, and simple experiments with baking powder will be tried. A visit to a flour-mill will continue the study of the chief ingredient in the doughs made.

SEVENTH GRADE.

The experiences of the former years with the different food principles will in this year be gathered up and systematized.

The work in cooking will be from the standpoint of the right application of heat to the different food principles. Part of the year will be spent in simple food analysis. Charts will be made for the museum showing the proportion of water, carbon, and ash in some of the common foods. Food-values will receive more emphasis than in the lower grades.

EIGHTH GRADE.

There will be little or no cooking in the eighth grade. A short study of food and its use in the body as fuel and nutrition will be followed by lessons on the house. The modern home will be studied in comparison with that of the past. The changes in the household brought about by modern scientific discoveries; the heating, lighting, and ventilation of our houses; and the way to make the house beautiful, are some of the topics that will be taken up.

PEDAGOGIC CLASS.

The work of the pedagogic class will be based directly upon that of the grades. It will include (1) a study of the relation of the work to other subjects and to the life of the school; (2) work in cooking selected from that given in the grades and experiments growing out of this; (3) subject-matter necessary to enable the teacher intelligently to direct the cooking in the grades, especially the study of food principles and of food-values.

OUTLINE OF COURSE FOR TRAINING KINDERGARTNERS.

BERTHA PAYNE.

THIS course is based upon three fundamental propositions: first, that there is a unity of educational principles; second, that a certain amount of training in general educational theory and practice should precede specialization in the theory and practice of any specific subject or grade of teaching; third, that the kindergartner's professional training should be given by a faculty of specialists, all of whom are studying the problem of the adaptation of subject-matter to all grades.

It might seem that, in the interest of economy of time, the student should study only the grade work in which her inclination prompts her to perfect herself, and devote herself from the first to study of the psychology and pedagogic problems belonging to one period of childhood. Certainly the kindergarten has its peculiar function. The psychology of the play period of growth, the special significance of that period, and the problem of adaptation of subject-matter to this age offer ample scope for study. Yet when the kindergartner has studied educational principles in the light of this one period of childhood, she is apt to either over or under the mark in her selection of material and shoot in her demands upon intellectual effort. Material is often selected that a wider experience with older children would show better adapted to maturer minds, while experiences are often deferred that would best be assimilated in the kindergarten groups.

The true spiral of growth must be apprehended in order to follow it with coincident material and opportunities for activity; therefore it seems most desirable that the young woman who begins her professional study with the purpose of becoming a kindergartner should lend herself to a discovery of the principles common to all grades, and, through a more or less cursory

experience with typical stages of childhood, learn to look for the constant and the variable in growth.

For the student who comes directly from high school or academy, the practice teaching during the first year will be in the kindergarten and first-grade groups, followed by work in the intermediate and grammar grades; during the second year, in the kindergarten and first and second or third grades; during the third year the assistant teaching will be in the kindergarten and first-grade groups. This third year will give opportunities for longer periods of teaching, at the discretion of the faculty.

The subjects of study will be such as this general order of practice demands. During the first year a broad outlook over the culture materials of history and geography will be aimed at, as seen in history, occupations, literature, science, geography, and mathematics. The main problems of psychology will be discussed, with the school as a laboratory. Enough work will be done in the arts to give the student a glimpse of the social and psychologic meaning of drawing, painting, modeling, making (in various materials), and singing.

During the second year geography, science, and history will be taken more in their special significance as material for adaptation to elementary work. History will be studied with emphasis upon primitive industries and race-development, both because of the fitness of the subject-matter to little children and also because of the psychologic parallels between race-development and child-development. Local areas will be studied in science and geography. Children's literature and story-telling, and the study of games and songs for little children, and the development of the child voice, will be an important part of the work in literature, singing, and physical culture. There will be one major of work in kindergarten theory and practice. The psychology will be educational and genetic. The work in the arts may be narrower, with the purpose of acquiring more power of expression in smaller ranges.

The third year offers college work in anthropology and sociology, further work in psychology, and a study of Froebel's

teachings in comparison with the inferences of later psychology and pedagogy, elective work in the arts, and longer periods of assistant teaching in the kindergarten groups.

The courses in kindergarten theory and practice and in Froebel's educational principles will be outlined in succeeding numbers of the *ELEMENTARY SCHOOL TEACHER*.

BOOK REVIEWS.

History of Education. By E. L. KEMP, Professor of Pedagogy in the State Normal School, East Stroudsburg, Pennsylvania. [Lippincott's Educational Series.] Philadelphia: J. B. Lippincott, 1902. Pp. xxiii+385. \$1.

STUDENTS of education, and the general reader as well, have reason to be glad that the fact that there were several good histories of education already in hand did not deter Professor Kemp from the task of adding one to the number. Probably the book will be read with especial interest by those to whom it comes as a survey of ground already familiar to them in detail. It leaves upon such a reader an impression not unlike that made by a swift tour in the companionship of an intelligent inhabitant, through country traversed previously and with more detailed examination. Yet its value will be almost as great as a guide-book to one yet unfamiliar with the ground.

The author's treatment of his subject is clear, interesting, rapid—almost too rapid for the class of readers for whom the book seems intended. It interests; it points out all the important and significant features; it helps, though not always, to an intelligent understanding of causes and results. But the reader wishes to supplement all this, and he must do so, even to gain the ends the author proposes. The value of the book would be considerably increased by a few references to collateral material and by a few explanatory notes. For example, to readers who stand in need of the sort of information afforded by these pages the brief statement is not luminous that "out of the combination [of Greek philosophic ideas with oriental religious conceptions] grew the neo-Platonic movement of the third century A. D." The reader is informed that in India "frequently older pupils assist in teaching the younger ones. This suggested the monitorial system to a famous English teacher who introduced it into England." It would be more satisfactory and instructive to the student beginning the study of the history of education if Dr. Andrew Bell had been named instead of "a famous English teacher," and if at least a reference had been given to p. 280 of the book, where Dr. Bell's enterprise is explained. These cases illustrate what seems to us slight but frequently recurring blemishes. No doubt it is an excellent quality in a book that it sends its reader in search of wider information than it affords. In this direction the value of Professor Kemp's book is considerably enhanced by the bibliography that follows the text.

Beginning with the earliest times, education among the oriental nations is treated in five short chapters, not because, in the opinion of the author, these made important contributions to western education, but because "the systems are very interesting, and the development of them was so simple that the understanding of them is easy and serves as a helpful introduction to the study of the advanced and complicated systems of the more progressive peoples." The best of these sketches is that of education in Persia, whose superiority to other eastern nations, save the Hebrews, is shown to consist in her loftier ethical conceptions. After the oriental nations, Greece and Rome are treated briefly, and then follows, within eight pages, a masterly study of "The Founder of Christianity" as a teacher. Here for the first time we detect the modern

emphasis in education. In the teaching of Jesus we are led to discover the germs of modern educational ideals. "Jesus did not, like the Greek philosophers, seek a new unity for a small state and overlook the claims of the lowly and oppressed. He sought the unity of the race. . . . He met men and dealt with them entirely on the basis of their humanity. In his treatment of them, he recognized no distinction as due to nationality, creed, caste, wealth, or learning. . . . Prior to Jesus, children, generally speaking, were subordinated to a narrow interpretation of the interests of parents or society. . . . No phase of the influence of his life is sweeter to contemplate than the new meaning it gave to child-life. . . . Wherever his spirit and word have taken hold of the thoughts and affections of men a peculiar sanctity has gathered about childhood, and parents and states have learned to make sacrifice for children. . . . The life and doctrine of Jesus were destined to modify, in the course of time, every phase of educational activity, to revolutionize its aims, principles, and methods." There follow an analysis and an enumeration of the fundamental characteristics of the teaching of Jesus.

The significance of the "Middle Ages" for education is to be found chiefly in monasticism, the reforms of Charlemagne, feudalism, scholasticism, the rise of cities, and the enfranchisement of the common people. These influences are well traced in four short chapters, covering thirty-one pages. Yet, on the whole, a more distinct impression of the separate and the relative significance of each of these forces and movements is received from sixteen pages of the first chapter of Russell's *German Higher Schools*. Professor Kemp's chapter on the "Rise of the Universities" is excellent. No period is so crowded with events of significance for education than that from 1500 to 1700. The Renaissance, the Reformation, the "counter-reformation" of the Jesuits, the scholastic humanism of the schools, the influence of France, the realistic renaissance proceeded in swift succession, each occasioned by clearly marked causes, each characterized by distinct educational ideals, each leading to distinct results. The reader of Professor Kemp's book finds each of these prevailing influences considered in turn, but he misses a sense of interrelation or concatenation, needful to impart unity and to give an impression of a steadily onward movement. The fact, easily noted, that Luther's ideas, so well exhibited by Professor Kemp, really had slight, if any, influence in the shaping of the schools, and that Melancthon rather gave humanistic color to education, until, by a transition easily traced, we find in Sturm that we are at the opposite pole from where Luther stood — this fact is not even indicated. Yet, without taking account of it, one hardly forms a just idea of the educational outcome of the Reformation. The chapter on the Jesuit schools is very full and clear. And the accounts of the "Innovators," Ratke, Comenius, Milton, Locke, Fenelon, and the later group, Pestalozzi, Froebel, Herbart, give a vivid impression of the great prophets of education whose ideals are but now realizing, and some, alas, still awaiting fulfilment.

The significance of the eighteenth century for education is well shown, but here again there is lack of emphasis on interrelation and unity. Facts, names, dates, influences stand rather by themselves than in mutual relations. One reads of the realistic movement represented by Francke and Hecker, and then of the new Humanism that in turn prevailed. But the relation of these two tendencies, and the fact that each was the natural and even inevitable outcome of immediately antecedent conditions, is not indicated. And Basedow and the Philanthropinists are considered without any reference to their relation to these characteristic movements, of which they were in some

sense the extreme expression. A slight change in arrangement and treatment of material would remedy this. The closing chapters on "The Growth of Public Elementary Education," "Secondary and Higher Education," "Other Characteristic Developments (Higher Education of Women, University Extension, etc.)," and "School Supervision" are among the best in the book, though even in these one receives the impression of sketchiness.

But we must not demand too much of an author who undertakes to give a general view of the history of education in one moderate-sized volume. Something must be left to the good sense and energy of instructors and students. As at the beginning of this review, we must commend Professor Kemp's history as an excellent guide-book to a most interesting field. It is highly agreeable and profitable reading. Whatever faults it exhibits have evidently been committed by a master of his subject, and not by one superficially acquainted with it. The style is absolutely clear, the sentences short and periodic. The page is printed in large, open type, and the general mechanical execution of the book is excellent.

NATHANIEL BUTLER.

THE UNIVERSITY OF CHICAGO.

A Latin Grammar for Schools. By ANDREW FLEMING WEST. D. Appleton & Co.

"THIS book is planned to give as much grammar as is serviceable in the school study of Latin. If Latin grammar is to be understood and relished by boys, it must be confined to the most necessary facts. . . . A sketch in outline contains less, but tells the beginner more than an elaborate picture does. Scientific Latin grammar is not for boys, but for men." (Preface, p. 7.) No claim is made for originality, except in the form of statement, and ample acknowledgment is made to the masters of the subject.

The aim of the book is clearly set forth, and the remarks that here follow are all made from the point of view of elementary teaching, and not from that of critical scholarship. The type is unusually large, the classification and arrangement are, in the main excellent, and the form of expression is clear, concise, and graphic. Even he who wants to run must read.

Turning now to details, one fears that in the whole treatment of stem and ending, in both declension and conjugation, Mr. West lacks the courage of his convictions as set forth in his preface. "The body of a word is called the stem, to which is attached the ending" (p. 14). "The ending is properly the part attached to the last letter of the stem. . . . Oftentimes the last letter or letters of the stem are weakened, otherwise altered, or lost. . . . The changes made in forming the cases are too complicated for a beginner in grammar. For convenience, therefore, *the changeable part* at the end of a noun is allowed to stand as the ending" (p. 15). And by inference the rest of the word is the stem; yet in the first declension (p. 17) we find *mēnsa* (stem *mēnsa*) with the list of case endings printed as usual—*a*, *ae*, *ae*, etc. The entire declension of this word is also printed in full. But is not the question obvious: Why is not the nominative *mēnsaa*, since the stem is *mēnsa* and the ending *a*? And if *mēnsa* be learned from the book in uncritical fashion, how about the other words of this declension? For practical elementary teaching the stem (the word need not be used at all if one's scholarly conscience is troubled)

of *mēnsa* is *mēns*, and that final *a*, "originally *ā*. later *ǣ*" (p. 16), that is not observable to the naked eye in classical Latin, should be mentioned in a note, in fine print, if at all. Microscopic Latin grammar is no more adapted to beginners than is scientific grammar. In the same way the stems in the other declensions are given as ending in *o*, *i*, or a consonant, *ŭ* and *ē*. Any explanation of the dropping or changing of these vowels is barred, as quoted, but the simple statement that the working stem is found by dropping a case ending, usually the genitive, is nowhere made. When so much that is exceedingly elementary is given one has the right to expect the treatment throughout to live up to that standard. The criticism in regard to stems and endings applies to the handling of verbs and adjectives. The treatment of the latter is, however, particularly excellent in its lists of irregularities.

The printing of English equivalents for the various forms in inflection seems to me a mistake. The forms represented certain notions in the Roman mind which are very frequently not classed together by the Englishman. For instance, the genitive *matris* may be "of mother," "for mother," "mother's," or even "mother's duty," according to the rest of the sentence; when it stands alone it is impossible to decide which is correct, and to print any one, or even all, is either false or unnecessary. Each case represents its own set of notions in the whole thought as expressed in the sentence. A knowledge of these possibilities, followed by the decision, on the grounds of probability and good judgment, of which is best in the given instance, is all that is really essential. The rest is only an exercise in English expression. The point made is even more urgent in the conjugations of verbs. It is impossible to give a meaning, or even a correct list of reasonable length, for any given subjunctive form, and the attempt to do so leads to rigidity and a mechanical exchange of words on the part of the pupil. Let the possibilities be understood, let him see that the choice, within that range, is his to make, and then let him try his various choices until he finds the one most to his mind; elasticity and life are given to his translation, and the reproach that the study of Latin injures the English of the young student loses all force. A student so trained will not be likely to translate "*Cum grano salis*," "With a corn thou dancest," as did, according to *The London Spectator*, a youth in Cambridge, England.

GERTRUDE PARKER DINGEE.

HYDE PARK HIGH SCHOOL,
Chicago.

EDITORIAL.

AN ELEMENTARY EDUCATIONAL MAGAZINE.

IN July, 1900, there appeared a new educational magazine entitled the *COURSE OF STUDY*. Its purpose was "to present in theory and practice a full exposition of the work of the Chicago Institute in the academic and pedagogical schools." This exposition was to be "continuous and to consist of a monthly record of the work done in all grades and departments, prepared by the teacher of the grades and departments." At the close of the year the title was made more inclusive, becoming the *ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY*. The school itself was transferred to a new position and became the University of Chicago School of Education. In the second year the school and the magazine suffered a severe loss in the death of Colonel Parker. The faculty carried on its work with untiring zeal until the close of the year. At the beginning of the third year it takes up its work under the leadership of Director John Dewey.

The term "Elementary School Teacher" is so broad in its application that it has been decided to omit "Course of Study" from the title, although the magazine will present, as heretofore, a full exposition of the course of study in the School of Education. The scope of the magazine will be enlarged somewhat, including not only the constructive plans of the members of the faculty of the School of Education, but also the projects and conclusions of other men and women who are giving special attention to subject-matter in the curriculum, or to school management. The journal will be a clearing-house for those who are moving along modern lines in attacking the problems of the course of study and of mind in its early stages of development.

It is not only those engaged in elementary teaching who can contribute toward the solution of its problems. The specialist in teaching is no longer the narrow-minded student limited to a narrow view of a small section of his subject. Such has been the influence of the theory of evolution on scholarship that the specialist must know his subject all through the stages of its development from its beginnings to its highly developed state. And if he be a scholar in the broadest sense of the term, he must know something of the phases which appeal to mind in the various stages of racial evolution and individual development. These two conditions make the specialist eminently fit to advise with teachers in the different departments of the school, ranging from the kindergarten to the university and to speak on the questions: What shall be the subject-matter? and, How shall it be handled in the elementary period of school life? The hosts of teachers thronging the summer schools,

the institutes, and the universities during the long vacation furnish ample testimony of the desire of the elementary teacher for the point of view and the results of investigation of those who are specializing. Many who are attempting to move in harmony with the time-spirit are handicapped by the uncertainties and the puerilities in the suggestions offered them in print and in teachers' meetings. A magazine should afford the scholar a means of presentation and the teacher a means of discussion that cannot be found elsewhere.

The elementary teacher who is busy in the schoolroom, the specialist who is garnering the rich harvests in the laboratory and the study, the superintendent who is a teacher and a student, have common interests which can be best advanced by bringing to bear upon them the experience and the scholarship of all classes of workers. Full and free presentation and discussion of a subject can be best secured, not in a single article, but in many articles which are the products of the thought and experience of different types of workers. To comprehend all of the conditions involved in one educational question is far more valuable in the solution of other questions than to have a lot of fragmentary notions that have been obtained by nibbling in desultory reading. The method of the teacher will be scientific when the data furnished by educational leaders are presented and treated scientifically. May not one safely assume that the time has come when an educational magazine can promise its readers a treatment of the questions in educational psychology, in subject-matter, and in school management in accord with the method of science?

There are many important questions in school management open to discussion. No one of them is more pressing than that which involves the relation of the kindergarten and the primary school. There are teachers ready and competent to throw light upon the problem of the kindergarten and the lower primary grades. They have given much thought to the question of the kind of occupations best fitted to aid in the continuous development of the affections and sympathies, the memory and judgment, of children between the ages of four and eight years. During the coming year both kindergartners and primary teachers will express themselves in the *ELEMENTARY SCHOOL TEACHER* on these vital questions.

Many teachers in the kindergarten, the primary and the grammar schools—all of whom are included in the term "elementary-school teacher"—will appreciate an opportunity to view questions concerning their work, not only from the standpoint of those within the precincts, but also from that of those without. The theories and constructive plans presented by the faculty of the School of Education, together with the contributions by specialists in subject-matter and in school management, will enable the *ELEMENTARY SCHOOL TEACHER* to offer that which will be conducive to the development of power in educational thinking and doing.

ELLA F. YOUNG.

THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

SOZODONT

A perfect Dentifrice for the

Teeth and Mouth

SOZODONT LIQUID . . . 25c
SOZODONT TOOTH POWDER . . . 25c
Large LIQUID and POWDER . . . 75c **25c**

A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

HALL & RUCKEL, New York.

MENNEN'S BORATED TALCUM



TOILET POWDER

Delightful After Bathing. A Luxury After Shaving. Beautifies and Preserves the Complexion.

A positive relief for PRICKLY HEAT, CHAFING and SUN-BURNS, and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get MENNEN'S (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it.

Sold everywhere, or mailed for 25 cents. (Sample free.)
GERHARD MENNEN CO., Newark, N. J.



Your baby plays on the floor, where dust and germs abound. Before sweeping, sprinkle the floor or carpet with properly diluted

Platt's Chlorides.
The Odorless Disinfectant

**PROMOTES
HEALTH.**

Jaeger UNDERWEAR
PURE WOOL Fits Perfectly.
ALL WEIGHTS AND SIZES
FOR ALL WANTS.
Protects against
Temperature Changes.

WOMEN! Jaeger Underwear means for you more comfort than you have ever experienced, perfect freedom of limbs, and the best fit possible.

MEN! This means for you Warmth, Comfort, Ease, Health, and exactly meets your requirements.

BOYS AND GIRLS! Can enjoy outdoor and indoor life without the dangers of ordinary underwear.

BABIES! This means for them freedom from colic and cold, is non-irritating, and assures happiness to the mother.

ILLUSTRATED CATALOGUE FREE
Showing also our various Jaeger articles.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St., 155-157 Broadway.
BROOKLYN: 594 Fulton Street.

BOSTON: 240-282 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 83 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

Skin Diseases

If you suffer from Eczema, Salt Rheum, Ringworm, Itch, Ivy Poison, Acne, or other skin troubles,

Hydrozone

will cure you.

Cures sunburn in 24 hours. In cases of Prickly Heat and Hives it will stop itching at once, also will relieve mosquito bites.

Hydrozone is a scientific Germicide. Used and endorsed by leading physicians. It is absolutely harmless, yet most powerful healing agent.

As these diseases are caused by parasites, killing them without causing injury to the sufferer, naturally cures the trouble.

Sold by leading druggists.

FREE to any one sending me 10c. to cover actual postage, will send a bottle containing sufficient to prove to your entire satisfaction the claims here made. Pamphlet sent free. Address

Prof. Charles Harchand

59 W. Prince St.,

New York.

“REVERSIBLE”
Linene
Collars & Cuffs.



MANY ADVANTAGES.

Perfect in fit, never ragged or uncomfortable. Very convenient, stylish, economical. Made of fine cloth and exactly resemble linen goods. Turn down collars are reversible and give double service.

NO LAUNDRY WORK.

When soiled, discard. Ten collars or five pairs of cuffs, 25c. By mail, 30c. Send 6c. in U. S. stamps for sample collar or pair of cuffs. Name size and style.

REVERSIBLE COLLAR CO., Dept. 12, Boston.

RIDE A COCK-HORSE TO BANBURY CROSS.
TO SEE A FINE LADY UPON A WHITE HORSE,
RINGS ON HER FINGERS, AND BELLS ON HER TOES.
SHE SHALL HAVE MUSIC WHEREVER SHE GOES.



SO SINGS THE FOND MOTHER IN NURSERY RHYME
TO HER GLAD INFANT, THE WHILE KEEPING TIME,
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.
THROUGH
MRS. WINSLOW'S SOOTHING SYRUP
OVER FIFTY YEARS SOLD
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

Dr. Deimel Underwear



BEARS A LABEL WITH THIS TRADE MARK

Many people suffer from a weak skin. They perspire easily and chill easily, cannot bear drafts and are apt to take colds, bronchitis, pneumonia or rheumatism. As a rule they wear woolen underwear; the heavier the garment the weaker the skin.

The Dr. Deimel Underwear of POROUS LINEN is the correct garment for the skin. It gives tone and vigor to it. Under it the skin becomes strong and active, capable of protecting the body against chills and internal congestions.

A Luxury in Summer and a Necessity in Winter

The Best Houses Everywhere Sell It

For catalogue and samples of the material, address

The Deimel Linen-Mesh Co.

Or

491 Broadway, New York

SAN FRANCISCO
111 Montgomery St.

WASHINGTON, D. C.
728 15th St., N. W.

MONTREAL, CAN.
2202 St. Catherine St.

LONDON, ENGL.
10 Broad St., E. C.

Air

enclosed in tiny cells
of Woven Wool retain-
ing the heat of the body

with a luxuriousness of feeling
gratifying to the most sensitive
skin: That's

Wright's Health Underwear

*Illustrated Catalogue
Sent on request.*



**Wright's Health
Underwear Co.**



*Wright's Health
Underwear*

TRADE MARK

**77 Franklin St.
New York**

R. R. Donnelley & Sons Co.

The Lakeside Press

PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



Insert your letter—turn

the crank—and your copy's made. No wet cloths to handle—no damp blotters to arrange—no screwing down letter-press.

It stands always ready. The pressure of the copying-rollers is always the same. Never a blurred letter, nor an indistinct copy.

Every copy clean and perfect—no faint copies to guess at. Copies made on the RAPID ROLLER LETTER COPIER can be filed right with the letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,

Rochester, N. Y.

Branches in N. Y., Phila., Boston, Chi., San F., and seven other cities.



Our Engraving

Of Wedding Stationery has something to commend itself to people of taste and refinement over the common, ordinary kind.

Our Prices

Are as low as work of our standard can be named.

We send you finely engraved plate and 100 of latest style visiting cards for \$1.50.

Monogram and initial work a specialty.

High class correspondence papers.

S. D. Childs & Co.

140-142 Monroe St.

Established 1897

CHICAGO.

EDISON SOLID GOLD FOUNTAIN PEN \$1.00

and a pint of ink for only



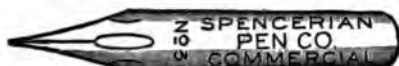
THE EDISON, JR. WIZARD FOUNTAIN PEN is as good a pen as was ever offered to the public at Any Price. It is impossible to make a better Pen. The Pen is guaranteed 14 Karat Solid Gold, fitted in a handsomely chased Para Rubber barrel, and easily outclasses all others as to high-grade workmanship, durability, and price. Money refunded if not as represented. We offer this pen at the very low price of \$1.00 postpaid, and present to each purchaser a package of Mr. Edison's famous Wizard Ink Tablets, in any or assorted colors, which dissolved in water makes one pint of the best Fountain Pen Ink ever produced. This exceptional offer is made to induce everyone to try our ink, knowing that when once used no other can take its place. The U. S. P. O. Dept., as well as the principal Railroads, Banks, and Boards of Education throughout the country have adopted it. Agents wanted. Write for descriptive circular.

THOMAS A. EDISON, JR. CHEMICAL CO., Dept. "P," 35 Stone St., New York.

SPENCERIAN

The Standard of
Excellence for
over forty years

STEEL PENS



Select a pen for your writing from
a sample card of special numbers for cor-
respondence. 12 pens for 10c., postpaid.

SPENCERIAN PEN CO.

349 Broadway,

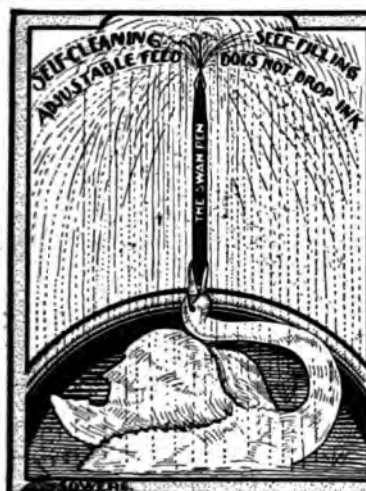
NEW YORK CITY

"AFTER ALL **CARTER'S INK** IS THE BEST"



An Old Bookkeeper is Discriminating

Better take his advice and use CARTER'S
Send for booklet "Inklings"—Free
THE CARTER'S INK CO. - BOSTON, MASS.



A Fountain Pen
is not a necessity!
Neither is the telegraph, telephone
or the railway;
BUT IT PAYS TO USE THEM
because they get there *quick*.
When you want the reliable, "get-
there-quick" fountain pen use a
SWAN

FOR SALE AT

THE EXCLUSIVE PEN STORE

96 STATE STREET, (STEWART BUILDING) CHICAGO

MABIE, TODD & BARD

THE WORLD'S LARGEST
Corporations
Railroads and
Manufacturers

Use **SMITH PREMIER**
TYPEWRITERS

Because they possess those sterling features
that make them the most economical to
own. Good work all the time.

The Smith Premier
Typewriter Co.,
Syracuse, N. Y.,
U. S. A.
Grand Prize,
Paris 1900...
Highest Award
Possible.....



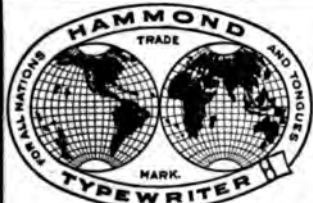
THE BEST
SEND FOR CATALOGUE
FIFTY
STYLES



PAUL E. WIRT
FOUNTAIN PEN
ALL
DEALERS
OR ADDRESS, BLOOMSBURG, PA.

WHY not use a clean Fountain
Pen, one that will write and
write always, without skipping,
blotting, or scratching?

The above Fountain Pen is and
has been sold on its merits all over
the world for sixteen years, and is
unconditionally guaranteed.



THE
Leading Typewriter
OF THE WORLD

The Only **POLYGLOT**—Using a **HUNDRED** Type Shuttles in **TWENTY-SIX**
Languages. All immediately interchangeable. Now adds to its Conceded Perfec-
tions (Perfect Alignment, Impression, etc.).

Each day has its cares
Ξερχε ε οργισν ηρ νβηηη
Each day has its cares
Αρκετον τη ημερα η καηη
Each day has its cares

Each day has its cares
Bo ymo nevemca o saca
Basta al dia su afan
EACH DAY HAS ITS CARES
Ein jeber Tag hat seine

A CROWNING GLORY

The Best **MANIFOLDER**, where **QUALITY** and **QUANTITY** are desired



THE
HAMMOND
TYPE-
WRITER
COMPANY

69th to 70th Street, East River
NEW YORK, N. Y.



"THE NAME IS EVERYTHING."

Esterbrook

on a pen is an absolute
guarantee of its excellence

Professional No. 1. The
Expert Penman's
Favorite. Very elastic.
Over 150 varieties of
other styles to suit
every purpose. All
stationers have them.
Accept no substitute.



THE ESTERBROOK STEEL PEN CO.

Works, Camden, N. J. 26 John Street, N. Y.

The REMINGTON-LEADS THE WORLD

*A first-class
Typewriter in-
spires confidence,
and indicates a good
business, conducted in
right way.*



WYCKOFF, SEAMANS & BENEDICT
(REMINGTON TYPEWRITER COMPANY)
NEW YORK

A POINT IN THE RIGHT

DIXON'S SM No 2

DIRECTION

Is our advice to try

Dixon's American Graphite Pencils.

The satisfaction of using a pencil that always does what is expected of it, sharpens to a fine point, and in which the lead doesn't break, either in sharpening or use, is not one of the least comforts to a busy person.

Dixon's Leads Don't Break.

Their grades never vary.
Pencils for all uses,

each one bearing our trade-mark, the best of its kind.

*If not sold by your dealer, send us
10c. for samples worth double.*

Joseph Dixon Crucible Co.,
Jersey City, N. J.



Densmore Does More



**Ask
About It**

**Densmore Typewriter
Company**

309 Broadway, New York

Investigation Means Investment

BY YOU IN THE

ORO HONDO EXTENSION OF THE GREAT HOMESTAKE LEDGE

AT LEAD, SOUTH DAKOTA.

The Original Investors' Accumulated Profits are the Largest.

ers have been made by those who went in at the beginning and stayed in until the value of their holdings increased many hundred per cent. THE HOMESTAKE has never missed a monthly dividend in twenty-five years and has ore blocked out now sufficient to run crushing and cyanide plants night and day for thirty-five years.

The great fortunes that have been made in mines and the large profits on mining stocks by individual holders.

Stock Sold for \$2.00. Now \$115.00

Oro Hondo Adjoins Homestake Property

and extends two miles on same ledge, which is 456 feet wide. The indications are that it is as great a property as the Homestake.

The Burlington & Missouri River Railroad passes directly over the property, and is within two hundred feet of the main shaft. The railroad has put in a sidetrack at this point.

With full knowledge of all economical business methods, and with an ore body so extensive that it is practically unlimited, the managers of the Oro Hondo Mining Co. are simply manufacturers on an enormous scale, and with a positively certain market for their product. Mining on purely scientific principles is the surest business in the world. The farmer may have bad crops, the manufacturer overproduction, the business man depression of trade, but the world always buys gold at a fixed price.

An Investment Now at the Opening Price Promises to Largely Increase in Value in a Very Short Time

We earnestly urge that you act at once in buying this stock. The price today is 50 cents a share (par \$1.00), but the price will be advanced from time to time as the development work progresses. The stock we offer is full-paid, non-assessable treasury issue, and is sold for the purpose of developing the property. The fullest particulars will be gladly furnished to every person interested in the property.

We stand back of every statement we make, and particularly request that our correspondents ask for specific information on any point not perfectly clear. Send for book, given to inquirers, containing valuable and interesting information on "Reduction of Gold Ores;" also illustrated prospectus of the Oro Hondo.

The stock will be listed on the leading mining exchanges.

If a number of prospective investors desire to visit the property and verify the conditions existing, as stated in our advertisement, we shall be willing and pleased to personally conduct such a party with THEIR OWN expert at our expense. No inconvenience whatsoever would attend such a trip. The finest Pullman accommodations will be provided to within one thousand yards of the main shaft in the city of Lead in sixty hours from New York or Philadelphia and thirty-six hours from Chicago or St. Louis.

The Oro Hondo Mining Co. refers to First National Bank, Denver, Colo.; First National Bank, Lead, South Dakota; Western Bank, Denver, Colo.

REGISTRARS OF STOCK—International Trust Co., Denver, Colo.

Address all Communications and Make all Checks Payable to the Fiscal Agents,

Broad Exchange Building
NEW YORK CITY

WM. A. MEARS & CO.

Land Title Building
PHILADELPHIA

1001 Union Trust Building, Cincinnati, O.
36 Ballerstein Building, Hartford, Conn.
Michigan Trust Building, Grand Rapids, Mich.

615 Bank of Commerce Building, Minneapolis, Minn.
Laclede Investment Co., St. Louis, Mo.
25 North Pearl Street, Albany, N. Y.

YOU ASK WHY



Best beans only are used.
Extra care exercised in blending.
Cocoa shells and dirt are removed.
Adulterations not permitted.
Use of most improved machinery.
Standard of merit - our watchword.
Endless watchfulness during manufacture.

Cost no more than others.
Once tried - always used.
GROCERS EVERYWHERE.

LIEBIG

COMPANY'S EXTRACT OF BEEF



ENERGY for the ENERVATED

"To hold as't were, the mirror
up to nature."

SHREDDED WHOLE WHEAT BISCUIT

Shredded Whole Wheat Biscuit is the direct reflection of Nature. It is the whole wheat—nothing added, nothing taken away. It is the NATURAL food intended by Nature for man's use, because it contains *All the Properties in Correct Proportion Necessary to Nourish every Element of the Human Organism.* Man's ignorance as to the uses of the different parts of the wheat was originally accountable for the removal of portions of it in order to make white flour. Custom and habit are accountable for the continuance of this vital error. Faulty bones and teeth, weak bodies and minds are the result of the white flour eating practice."

Shake off the pale, sickly yoke and nourish every part of your God-given mind and body with NATURAL food—thrust the white bread eating habit firmly aside, be well and strong and "Bare do all that may become a man." Sold by all Grocers. Send for "The Vital Question" Cook Book (Free).
THE NATURAL FOOD CO.,
 Niagara Falls, N. Y.





CYKO Makes pictures in black and white, or in a variety of tones by the use of Cyko toner. It is the paper that enables you to produce the best print your negative is capable of giving.

Art Cyko out-cykos even Cyko. The paper is very heavy and produces the most beautiful of prints.

Doz. 4 x 5 Cyko w th Developer, 20 cents.
If your dealer cannot supply you, send to

THE ANTHONY & SCOVILL CO.

122-124 Fifth Ave. (17th and 18th Sts.), NEW YORK
Atlas Bldg. (Randolph St. and Wabash Ave.), CHICAGO

A Wonderful Material! PANTASOTE

Waterproof—Greaseproof—Stainproof

Also Germproof and FIREPROOF! Unlike other leather substitutes, it contains no cellulose, rubber or other dangerous and objectionable substances, and is also *entirely odorless*.

Pantasote does not peel or crack, is not affected by heat, cold or climate. Looks like Morocco leather, wears better and costs half. Tested nine years with unqualified success. Made in plain leather grains or richly embossed designs, all standard colors.

A Piece
18 x 18 in.
for 25 cents
in stamps.
Free sample
15 x 6 in. for
sc. stamp and
your upholsterer's address.



Awarded GOLD MEDAL at Buffalo.

CAUTION—There are dangerous and worthless imitations; genuine has Pantasote stamped on goods.

PANTASOTE CO., Dept. Z, 11 Broadway, New York

A Striking Example

of the result of nearly a half century of experience in organ manufacture is here shown.



STYLE 4404.

This model is one of our new designs for chapel use, and is already a favorite. Catalogue of all styles free.

Mason & Hamlin Co.

BOSTON.

NEW YORK.

CHICAGO.

CROWN PIANOS

Noble in Tone
Chaste in Appearance
Durability Unquestioned

GEO. P. BENT
Manufacturer Chicago

\$3000.00
100

Rochester, N.Y. Aug. 1 1902.

Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World
Three Thousand and 00/100 Dollars

Bausch & Lomb Optical Co.

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Clauses for all kinds of work and for Kodak, Prontor, Pecca and other hand cameras with B. & L. Lenses being provided.

ROCHESTER, N. Y.

Who will send full information on request.



ORCHESTRA

Instruments, Violins, Flutes, Mandoline, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, Illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.
The World's Largest Music House. Sells "Everything Known in Music."

PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent instrument at \$290, \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."

Rare Old Violins

Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Authenticity with each instrument.

LYON & HEALY, 38 Adams St. Chicago.



GOERZ

International
PRIZE

Competition

\$1500 in

Cash Prizes

or equivalent in GOERZ
manufactures if preferred

FOR PARTICULARS ADDRESS

C. P. Goerz Optical Works

ROOM 6, 52 E. UNION SQUARE, N.Y.

Main Office, Berlin—FRIEDENAU—GERMANY

Branches, LONDON—3-6 Holborn Circus

PARIS—22 Rue de L'Entrepot



WHAT sensations are more agreeable than those following some good, quick exercise, a rub with a rough towel, a scrub with Ivory Soap and a dash of cold water? The nerves are braced, the muscles are hardened, and the man or woman is better able to resist disease and the wearing effects of mental strain.

If the Ivory Soap is not positively essential, it is at least delightfully cleansing, and the beneficial effects of a pure soap constantly used, can hardly be overestimated.

BUFFALO LITHIA WATER In All Forms of Bright's Disease, Albuminuria of Pregnancy, Uric Acid Diathesis, Gout, Rheumatism, Lithaemia, Renal Calculi, and Stone of the Bladder, Etc., Etc.

Dr. George Ben Johnston, Richmond, Va., ex-President Medical Society of Virginia and Professor of Gynecology and Abdominal Surgery, Medical College of Virginia: "IF I WERE ASKED WHAT MINERAL WATER HAS THE WIDEST RANGE OF USEFULNESS, I WOULD UNHESITATINGLY ANSWER BUFFALO LITHIA. It is a most valuable remedy in many obscure and stubborn conditions which, at best, yield slowly, if at all, to drugs. In URIC ACID DIATHESIS, GOUT, RHEUMATISM, LITHAEMIA, and the like, its beneficial effects are prompt and lasting.

"Almost any case of Pyelitis and Cystitis will be alleviated by it and many cured.

"I have had evidence of the undoubted **DISINTEGRATING, SOLVENT, and ELIMINATING POWERS** of this water IN RENAL CALCULUS, and have known its long continued use to permanently break up the gravel-forming habit.

"It is an agent of great value in the treatment of the **Albuminuria of Pregnancy**, and is an excellent diuretic in **Scarlatina** and **Typhoid Fever**. In all forms of **BRIGHT'S DISEASE**, except those hopelessly advanced, its good effects are pronounced. I believe it has been the means of prolonging many lives in this trouble."

John V. Shoemaker, M.D., LL.D., Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc., in the New York Medical Journal, June 22, 1899: "The **BUFFALO LITHIA WATER** is **DOUBLY EFFICIENT** in **Rheumatism** and **Gout**. It dissolves **Uric Acid** and **Phosphatic sediments**, as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the Kidneys and Bladder. The intense suffering produced by **Stone**, together with consecutive **pyelitis** and **cystitis**, are avoided by prompt elimination. Unquestionably, although the speedy removal of **Uric Acid** and other products of faulty tissue change is of conspicuous benefit, yet to **PREVENT** their formation is a service still more important. This service is performed by the **BUFFALO LITHIA WATER** when it corrects those digestive failures which are responsible for the production of deleterious materials."

James L. Cabell, M.D., A.M., LL.D., Formerly Professor of Physiology and Surgery in the Medical Department of the University of Virginia, and President of the National Board of Health, says: "**BUFFALO LITHIA WATER** in **Uric Acid Diathesis** is a well-known therapeutic resource. It should be recognized by the profession as an article of **Materia Medica**."

Dr. J. W. Mallet, Professor of Chemistry, University of Virginia. (Extract from report of analysis of **Calculi** discharged by patients under the action of **BUFFALO LITHIA WATER** Spring No. 2):

"It seems on the whole probable that the action of the water is **PRIMARILY and MAINLY** upon **URIC ACID** and the **URATES**, but when these constituents occur along with and as cementing matter to **Phosphatic** or **Oxalic Calculus** materials, the latter may be so detached and broken down as to disintegrate the Calculus as a whole in these cases, also thus admitting of **Urethral discharge**."

Spring No. 1 is both a **NERVE** and a **BLOOD TONIC**, and in **PALE, FEEBLE, and ANAEMIC SUBJECTS** is to be preferred. In the absence of these symptoms No. 2 is to be preferred.

BUFFALO LITHIA WATER is for sale by Grocers and Druggists generally.

Testimonials which defy all imputation or questions sent to any address.

PROPRIETOR - BUFFALO LITHIA SPRINGS - VIRGINIA

Baker's Cocoa — and — CHOCOLATE



TRADE-MARK

have held the market
for 122 years with con-
stantly increasing sales

(1) because they are pure and of
high grade; (2) because they yield
the most and best for the money;

(3) because they are unequalled
for smoothness, delicacy, and flavor

Our trade-mark is on every package of
the genuine goods

Walter Baker & Co.

Limited

Dorchester, Massachusetts
40 Highest Awards in Europe & America

WEBER PIANOS

Piano building as a fine art has
never been more highly exemplified
than by our recent productions.
Send for description of our new
Style A Grand, the most remark-
able Small Grand ever produced
by any maker. Its length is but
5 feet 4 inches.

THE WEBER PIANO COMPANY

108 FIFTH AVE., NEW YORK
266 WABASH AVE., CHICAGO

DON'T LET THE DEALER

PALM

A SUBSTITUTE

IN PLACE OF

HAND SAPOLIO

FOR TOILET AND BATH

VOSE PIANOS

have been established over 50 YEARS. By our system of
payments every family in moderate circumstances can own
a VOSE piano. We take old instruments in exchange and
deliver the new piano in your home free of expense.

VOLUME III

NUMBER 3

The Elementary School Teacher



NOVEMBER, 1902

Chicago: *The University of Chicago Press*

Subscription: \$1.50 per Year :: Single Numbers 20 cents

~~~~~ COPYRIGHT, 1902, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second-class matter, July 15, 1901

# Pears' Soap



*Goes farther than  
any other  
but if you go farther  
you'll fare worse.*

# The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

---

## CONTENTS FOR NOVEMBER, 1902

|                                                               |                           |     |
|---------------------------------------------------------------|---------------------------|-----|
| WHY AND HOW DO WE LEARN? . . . . .                            | C. B. GILBERT             | 141 |
| LITERATURE IN THE ELEMENTARY SCHOOL. II . . . . .             | PORTER LANDER MACCLINTOCK | 146 |
| FROM ROUSSEAU TO FROEBEL . . . . .                            | ANNA TOLMAN SMITH         | 156 |
| ENGLISH IN ELEMENTARY SCHOOLS. II . . . . .                   | E. H. LEWIS               | 160 |
| THE GRAMMAR SCHOOL . . . . .                                  | FRANK A. MANNY            | 165 |
| THE TRUE PLACE OF ENGLISH IN THE PUBLIC SCHOOL WORK . . . . . | HELEN L. GRENFELL         | 171 |
| MATHEMATICS IN THE PROFESSIONAL SCHOOL. II: . . . . .         |                           |     |
| PEDAGOGY OF ELEMENTARY MATHEMATICS . . . . .                  | GEORGE W. MYERS           | 178 |
| PHYSICAL TRAINING . . . . .                                   | C. J. KROH                | 183 |
| FRENCH . . . . .                                              | LORLEY ADA ASHLEMAN       | 194 |
| EDITORIAL . . . . .                                           |                           | 200 |
| BOOKS RECEIVED . . . . .                                      |                           | 204 |

---

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

THE UNIVERSITY OF CHICAGO PRESS,

CHICAGO, ILLINOIS

APPLICATION MADE FOR ENTRY AS SECOND-CLASS MAIL MATTER  
COPYRIGHTED, 1902, BY THE UNIVERSITY OF CHICAGO.

**NEW--Just What You Need for Best Results**

## **MORSE'S EDUCATIONAL SYSTEM**

**and the**

## **NATURAL MOVEMENT METHOD**

**of Practical Writing**

### **THE MORSE COMPANY**

**96 Fifth Ave., New York.**

**Boston: 8 Beacon St. Chicago: 195 Wabash Ave.**

Thoroughly unique in character, with many original, valuable features.

The right slant for best results. Round letters and round turns. Elimination of all unnecessary lines. Legibility and Rapidity. Correlated copy material, carefully graded and illustrated. System and method combined.

20 to 25 Adjustable Copy Slips in back of each book for elementary work, giving more than double the copy material of other books. Eight-book series.

Price, per dozen, 75 cents

Liberal discount for introduction.

## **R. R. Donnelley & Sons Co.**

**The Lakeside Press**

### **PRINTERS AND BINDERS**

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES, AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



## **THE UNIVERSITY OF CHICAGO Decennial Publications**

This series was planned in connection with the celebration of the completion of the first ten years of the educational work of the University of Chicago, the purpose being to set forth and exemplify the material and intellectual growth of the University during its first decade.

*The following preprints from the quarto series are ready:*

- The Velocity of Light**, by Albert A. Michelson (25 cents, *net*)
- On the Text of Chaucer's Parlement of Foules**, by Eleanor Prescott Hammond (50 cents, *net*)
- Concerning the Geodesic Curvature and the Isoperimetric Problem on a Given Surface, and Proof of the Sufficiency of Jacobi's Condition for a Permanent Sign of the Second Variation in the So-called Isoperimetric Problem**, by Oskar Bolza (bound together, 25 cents, *net*)
- On the Production and Suppression of Muscular Twitchings and Hypersensitiveness of the Skin by Electrolytes**, by Jacques Loeb (25 cents, *net*)
- The Treatment of Nature in the Works of Nikolaus Lenau**, by Camillo von Klenze (75 cents, *net*)
- The Physical Characters of the Indians of Southern Mexico**, by Frederick Starr (75 cents, *net*)
- Credit**, by J. Laurence Laughlin (50 cents, *net*)
- Formula for Determining the Weight of the Central Nervous System of the Frog from the Weight and Length of the Entire Body**, by Henry H. Donaldson (25 cents, *net*)
- Concerning the Modern German Relatives, Das and Was, in Clauses Dependent upon Substantivized Adjectives**, by Starr Willard Cutting (25 cents, *net*)

*Of the Octavo Series there are ready:*

- The Life and Repentance of Marie Magdalene**, by Lewis Wager, 1767, edited with an Introduction, Notes, and Glossarial Index, by Frederic Ives Carpenter (\$1.00, *net*)
- The Second Bank of the United States**, by Ralph C. H. Catterall. (Ready November 20)

FOR SALE BY DEALERS OR THE PUBLISHERS

**The University of Chicago Press :: Chicago, Illinois**

## Dining Cars Service à la Carte

ROSES are always on the tables,  
and delicate china, glass and  
silver add to the pleasure of a dinner  
well cooked and daintily served

All the Season's Delicacies  
at Very Moderate Prices

**Burlington  
Route**

OUR 8,000 miles of rail-  
road reach out from  
Chicago, Peoria and  
St. Louis to all the important  
cities in the west and north-  
west such as

**ST. PAUL  
MINNEAPOLIS  
OMAHA  
KANSAS CITY  
DENVER**

If you are going to any of  
these places or to the Pacific  
coast, kindly let me send you  
time tables and other informa-  
tion about our train service.

P. S. EUSTIS,  
Gen'l Pass. Agt., C. B. & Q. R. R.,  
CHICAGO, ILL.

## THE UNIVERSITY OF CHICAGO PRESS Contributions to Education

By JOHN DEWEY, Professor and Head of Department of Philosophy in the University of  
Chicago, and ELLA FLAGG YOUNG, Professor of Education in the University of Chicago.

The series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy.

- |                                                                              |                     |
|------------------------------------------------------------------------------|---------------------|
| <b>No. 1. ISOLATION IN THE SCHOOL</b>                                        | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 50 cents                                                   | postpaid, 54 cents  |
| <b>No. 2. PSYCHOLOGY AND SOCIAL PRACTICE</b>                                 | By JOHN DEWEY       |
| 12mo, paper, net, 25 cents                                                   | postpaid, 27 cents  |
| <b>No. 3. THE EDUCATIONAL SITUATION</b>                                      | By JOHN DEWEY       |
| 12mo, paper, net, 50 cents                                                   | postpaid, 53 cents  |
| <b>No. 4. ETHICS IN THE SCHOOL</b>                                           | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 25 cents                                                   | postpaid, 27 cents  |
| <b>No. 5. THE CHILD AND THE CURRICULUM</b>                                   | By JOHN DEWEY       |
| 12mo, paper, net, 25 cents                                                   | postpaid, 28 cents  |
| <b>No. 6. TYPES OF MODERN EDUCATIONAL THEORY</b>                             | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 25 cents                                                   | postpaid, 28 cents  |
| Price for series on one order to same address, net, \$1.50; postpaid, \$1.67 |                     |

For Sale by Dealers  
or

The University of Chicago Press, Chicago, Illinois



# Correspondence Instruction

credit is given so that the time of required residence for the Bachelor and Doctor's degrees is materially shortened. The work offered includes courses in **Theology, Philosophy, History, Pedagogy, Sociology, the Languages, Literature, and Mathematics.**

Circulars giving detailed information may be had by addressing

**THE CORRESPONDENCE-STUDY DEPARTMENT,**

**The University of Chicago, Chicago, Ill.**

**The University of Chicago** offers advantages for non-resident students through its Correspondence-Study Department which cannot be surpassed. Degrees are not granted upon work done wholly by correspondence, but when the courses are completed at the University,

## The Velocity of Light

(PREPRINT FROM THE UNIVERSITY OF CHICAGO  
DECENNIAL PUBLICATIONS, VOL. IX)

By **ALBERT A. MICHELSON**,  
Professor and Head of the Department  
of Physics in the University of Chicago

**P**ROFESSOR MICHELSON'S researches on this subject while at the United States Naval Academy attracted wide attention among physicists. Following the line of his early experiments he now describes a new method by which the velocity of light, the accurate determination of which is of such great importance in physical and astronomical research, may be measured with a very narrow margin of error. . . . .

*12 pages, 4to, paper, with illustrations,  
net 25 cents : : Postpaid, 27 cents*

FOR SALE BY DEALERS OR

**The University of Chicago Press**  
**CHICAGO ILLINOIS**

## Big Four Route

**FROM  
CHICAGO  
TO**

**Indianapolis, Cincinnati, Louisville,  
the  
South and Southeast.**

**DIRECT LINE TO  
Asheville, N. C., and Florida.**

**THE SCENIC LINE TO  
Virginia Hot Springs and Washington, D.C.  
via the Picturesque  
CHESAPEAKE & OHIO R'Y.**

**W. J. LYNCH, G.P. & T.A.    W. P. DEPPE, Ass't G.P. & T.A.**

**CINCINNATI, O.**

**J. C. TUCKER, G.N.A.    234 Clark St., CHICAGO**

## Back Numbers of The Elementary School Teacher Wanted . . .

**W**E are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each in cash for copies of this number delivered in Chicago. We also offer 20c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers

**The University of Chicago Press, Chicago, Illinois**



**THOMAS B. REED**  
Editor-in-Chief

# Modern Eloquence

THE publication of *Modern Eloquence* (ten handsome library volumes) is an event of premier importance. For the first time the best After-dinner Speeches, Lectures, Addresses, Anecdotes, Reminiscences, and Repartee of America's and England's most brilliant men have been selected, edited, arranged, by an editorial board of men—themselves eloquent with word and pen—who have achieved eminence in varied fields of activity.

*These gems of spoken thought* were fugitive from lack of proper preservative means until the Hon. Thomas B. Reed, upon voluntarily retiring from the Speakership of the House of Representatives, gathered about him these men of mark and experience in literature, his friends and co-workers in other fields, and began the task of preparing this great work. North, East, South, and West, and the Mother Country as well, have been searched for gems in every field of eloquence.

Here was a lecture that had wrought upon the very souls of great audiences; there an after-dinner speech, which "between the lines" was freighted with the destinies of nations. Here was an eulogy expressing in few but virile words the love, the honor, and the tears of millions, and there an address pregnant with the fruits of a strenuous life's work. Or, perchance, a reminiscence, keen, scintillant repartee, or a story potent in significance and aflame with human interest. Matter there was in abundance, for English-speaking peoples are eloquent, but *the best—only the great, the brilliant, the worthy to endure*, has been the guiding rule of Mr. Reed and his colleagues. Their editorial labors have been immense.

Whatever the viewpoint, this work is without precedent. It has no predecessor, no competitor. Speeches that have been flashed across continents, lectures that have been repeated over and over again to never-tiring audiences (but never published), addresses that have made famous the man, the time and the place—these are brought together for the first time, and with them a large number of the wittiest sayings of the wittiest men of the nineteenth century.

For an hour—for a whole evening in the easy chair at home—for the study of style and diction that have electrified brilliant assemblies—for the man ambitious to become a successful or popular public speaker, and for the one who has to prepare a toast or an address—this work is a never-failing source of charm and inspiration. Nor is this solely "a man's work." "The tenderest tribute to woman I have ever read," said Senator Dolliver when he read the manuscript of Joseph Choate's after-dinner speech—"The Pilgrim Mothers."

MODERN ELOQUENCE is sumptuously published in 10 octavo volumes, but moderately priced. To properly present this electric library, Portfolios comprising Table of Contents, fine photogravures, chromatic plates, sample pages, and other interesting material have been prepared. One of these portfolios with full particulars regarding bindings, prices, terms, etc., will be mailed on application.

A  
Fine  
Portfolio  
Posted Free.

John D.  
Morris & Co.  
PHILADELPHIA

Gentlemen: Referring to your advertisement of Hon. Thos. B. Reed's library of *Modern Eloquence* I shall be pleased to receive portfolio of sample pages, photogravures, and chromatic plates; also full particulars regarding bindings, prices, etc.

Name.....

Mail Address.....

**JOHN D. MORRIS & CO.,**  
Publishers, Philadelphia

**BOOKSELLERS  
STATIONERS**

**A. C. McCLURG  
& COMPANY**

**Standard  
Miscellaneous  
Illustrated and  
Fine Bound  
Gift Books  
Wedding and  
Reception  
Invitations and  
Visiting Cards  
Engraved**

**A.C.McCLURG & CO.  
215-221 Wabash Av., CHICAGO**

**PUBLISHERS  
IMPORTERS**

## For Use in Secondary Schools

### History

|                                                 |        |
|-------------------------------------------------|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England              | 1.25   |
| Botsford—History of Greece                      | 1.10   |
| Botsford—History of Rome                        | 1.10   |
| Adams—Medieval and Modern History               | 1.10   |
| Adams—Growth of French Nation                   | 1.25   |
| Adams—European History                          | 1.40   |

### Science

|                                       |      |
|---------------------------------------|------|
| Bailey—Elementary Botany              | 1.10 |
| Davenport—Introduction to Zoölogy     | 1.10 |
| Crew—Elements of Physics              | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography    | 1.40 |
| Tarr—Elementary Geology               | 1.40 |

### Mathematics

|                                             |      |
|---------------------------------------------|------|
| Fisher & Schwatt—Secondary Algebra          | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond      | .90  |
| Holgate—Elementary Geometry                 | 1.10 |

### English

|                                                               |      |
|---------------------------------------------------------------|------|
| Carpenter—Rhetoric, First High-School Course                  | .60  |
| Carpenter—Rhetoric, Second High-School Course                 | .50  |
| Lewis—Introduction to the Study of Literature                 | 1.00 |
| Carpenter—Principles of English Grammar                       | .75  |
| Pocket English and American Classics (34 volumes ready), each | .25  |

**The Macmillan Company**

378-388 WABASH AVE., CHICAGO  
New York Boston Atlanta San Francisco

## REMEMBER

THAT RAND, McNALLY & COMPANY  
ARE THE LARGEST PUBLISHERS OF

## M A P S

OF ALL KINDS

*Columbia Series*      *Kiepert's Physical Series*  
*New Physical Series*      *Kiepert's Classical Series*  
*Globe Series*      *Spruner-Bretschneider*  
*New Outline Series*      *Historical Series*

THAT RAND, McNALLY & COMPANY  
ARE THE LARGEST PUBLISHERS OF

## GLOBES

IN AMERICA

*Terrestrial Globes*      *Relief Globes, and a*  
*Celestial Globes*      *New Globe Manual*

OUR IMPRINT IS A GUARANTEE OF EXCELLENCE  
*May we send you our Catalog?*

**Rand, McNally & Company**

EDUCATIONAL PUBLISHERS

CHICAGO . . NEW YORK . . LONDON

When calling please ask for Mr. Grant

## Save on Books

Whenever you need any book, or any information about books, write to me and you will receive prompt attention and low prices.

### My Stock of Books

in all departments of literature is very complete.

### An Assortment of Catalogues

and special slips of books at reduced prices sent for a 10-cent stamp.

**F. E. GRANT**

23 West Forty-Second Street, New York

Mention this advertisement and receive a discount.

## Have you got to speak a piece?

Well, we don't know of any kind of "effort" from the schoolboy's "recitation" or the schoolgirl's "reading," and along through the whole school and college career, down to the "response to toasts" at the last "class dinner," that is not provided for among —

■ Commencement Parts, including "efforts" for all other occasions. \$1.50.  
■ *Prose and Verse*. Both sides of live questions. \$1.50.  
■ *Playable Plays*. For school and parlor. \$1.50.  
■ *College Men's Three-Minute Declamations*. \$1.00.  
■ *College Maids' Three-Minute Readings*. \$1.00.  
■ *Pieces for Prize-Speaking Contests*. \$1.00.  
■ *Acme Declamation Book*. Paper, 50c. Cloth, 50c.  
■ *Handy Pieces to Speak*. 108 on separate cards. 50c.

■ List of "Contents" of any or all of above free on request if you mention this ad.

■ **HINDS & NOBLE, Publishers**  
■ 4-5-13-14 Cooper Institute N. Y. City  
■ Schoolbooks of all publishers at one store.

Fifty two-cent stamps sent us before January 1, 1903 will secure THE EDUCATOR one year (a 48-page profusely illustrated, DOLLAR METHOD PAPER for teachers), THE WORLD'S REVIEW one year.

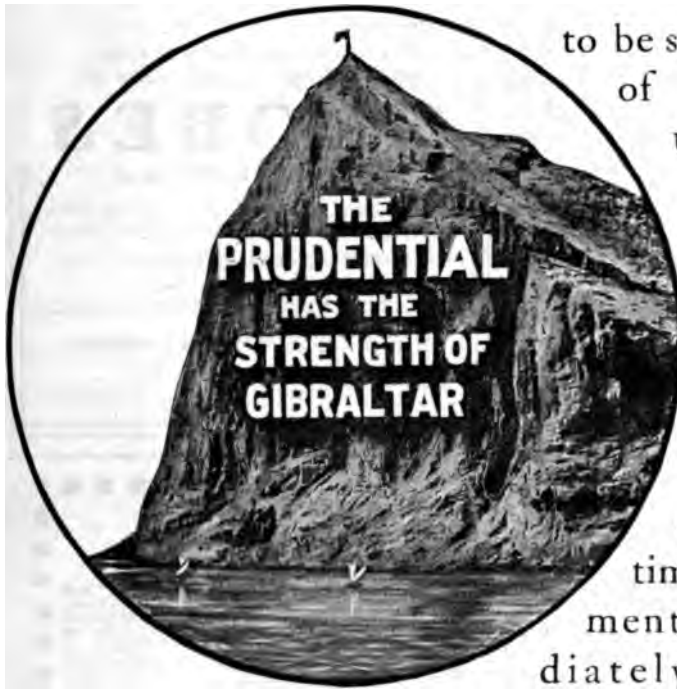
## THE GREATEST OFFER

(a 16-page Weekly CURRENT TOPIC paper and a full series of our BUSY SEAT WORK, 5 complete

## YOU EVER HEARD OF!

subjects. Total value \$8.50. For 25 cents additional we will send you THE NORMAL INSTRUCTOR and TEACHERS' WORLD for one year. 108 Seneca St. Address, World's Review, Buffalo, N. Y.

# Suppose a National Bank Offered to Set Aside A Sum of Money for You



to be secured at the end  
of a term of years  
upon the payment  
of small instal-  
ments, and with  
the guarantee  
that the whole  
sum should go  
to your heirs in  
case of your  
death before that  
time, when your pay-  
ments would imme-  
diately stop! Would  
you not take advantage of the offer?

This is Precisely What  
**THE PRUDENTIAL**  
Offers You, With Dividends Guaranteed

Through its Popular Endowment Policies.  
They are worth your immediate investigation.

*Particulars free upon request. Dept. 26*

**THE PRUDENTIAL INSURANCE COMPANY OF AMERICA**

JOHN F. DRYDEN, Pres't

HOME OFFICE, Newark, N. J.

# THE ELEMENTARY SCHOOL TEACHER

NOVEMBER, 1902

## HOW AND WHY DO WE LEARN?

### I.

AN American philosopher has said: "Even a proverb may be true." Probably a few are; more are half-truths; many are individual facts which, stated as general truths, are fit only to mislead Sancho Panzas.

"Knowledge is power" is even less; it is a mere trope; the conditioning for the thing conditioned. Knowledge is no more power than a steam engine is power.

And yet the acquisition of knowledge is necessarily the great fact and the most manifest endeavor in organized education, and whatever theories may be held, practically all the time in all schools is devoted to it.

We have countless definitions of education made by teachers and educational philosophers, innumerable theories as to the purpose and end of the school.

Yet none of them mentions the acquisition of knowledge as the principal thing. We speak of the evolution of the individual, the calling out of his powers (false philology), all-around training, symmetrical development; but none of us would venture to say in public: "The acquisition of knowledge is the purpose of the school."

But when we get beyond the definition and begin to write treatises upon educational methods, most of us fall back upon the acquisition of knowledge as the end aimed at, and particularly when we come to administer schools do we conduct them as if the imparting of facts were the only aim.

Moreover, this is the popular notion. Ask any boy on the

way to school what he goes to school for, and he will answer: "To learn." Ask his father why he sends his children to school, and, unless he be an educational theorist, he will answer: "To learn." They draw their notions from our practice and from their sense of children's need.

Surely, then, a fact so conspicuous needs careful study. If, in spite of our educational theories and definitions, the acquisition of knowledge is, both in popular notion and in pedagogical practice, the conspicuous and real thing in education, it behooves us to consider what is its function. I am well aware that this discussion will seem to the philosophers trite and unnecessary, to others futile and unpractical; yet I am moved to start it, though with fear and trembling, for several reasons—particularly in view of some recent utterances upon educational topics with regard to isolation and analogy; and I am so moved, first by this apparent lack of consistency between our definitions of education, on the one side, and, on the other, our discussion of practical educational questions, and especially our administration of the school itself; second, by certain recent utterances upon isolation and the use of analogy in educational discussion which seem to me further to darken the horizon and obscure the vision, especially through the use of terms in unusual and abstruse senses.

Is the apparent lack of consistency real, or does it result from confusion of terms?

Let us ask first: What do we mean by the term "knowledge"? It is used in two senses: first as describing what is known, sometimes termed "objective knowledge" or the "body of knowledge." Stormonth gives among the synonyms of "knowledge," "literature," "art," "science," things purely objective. We use the term in this sense when we speak of "imparting knowledge," "acquiring knowledge." In these uses of the word it is evident that what is intended is something apart from the knowing mind, and which may be given to it or be made to influence it.

The other sense in which the term is used is that of a *mental state*, the effect produced within the mind by this external thing, objective knowledge. Some of the synonyms given by Stor-

month for "knowledge" in this sense are "erudition," "cognition," "acquaintance," "scholarship." When a truth is known, the objective knowledge becomes subjective. That is, "knowledge" as used in the first sense becomes "knowledge" as used in the second sense.

This use of the same term in different senses is doubtless unfortunate, but it can hardly be avoided. All metaphysical discussion is full of such confusion. Because our language for the expression of metaphysical ideas is of necessity borrowed by analogy from that belonging first to the material world, and as analogies are always incomplete, and as the same term often suggests many likenesses, absolute definition is almost, if not quite, impossible.

I need but to refer readers to the long and wearisome, and after all inconclusive, discussion of the term "consciousness" by the earlier writers upon the philosophy of the mind, each of many authors insisting that his use of the term was the correct one. All that a writer may hope to do is to make clear to his readers the sense in which he uses a particular term. Further discussion upon such matters is as foolish as the exciting arguments by English and American travelers over the relative accuracy of the terms "luggage" and "baggage," or "carriage" and "car."

After all is said, the fact remains that in speaking of the mind and its functions and activities, indeed of all metaphysical ideas, there is danger of confusion because most of the language used is of necessity borrowed by analogy from the physical world. This has come about through the growth of language. Physical facts and feelings were first evident, and words were devised to describe them. Gradually, as man advanced in intelligence, and became conscious of spiritual truths and relations, the words employed to describe the physical were transferred to the metaphysical sphere suggested by likenesses real or fancied. This is evident in regard to the simpler and more manifest facts which naturally first impressed themselves upon the consciousness and first required words to describe them. Thus *wrong* is *twisted*, *right* is *straight*, to be *wise* is to *see*, to be a *fool* is to *make up faces*. The list might be increased indefinitely.



Through long usage the physical origin of many metaphysical terms has been wholly lost sight of, as the word *mind* itself cannot be definitely traced to its source, but is lost in a cloud of conjectures, all of which, however, connect its earliest roots with those of the word *man* and at least suggest a physical origin. *Idea*, however, shows a clear family relation with the Greek verb meaning *to see*. These facts, it is true, are the commonplaces of philology, and I instance them merely to make it plain that it is quite safe to assign even the most purely metaphysical terms to physical sources, from which they were borrowed by reason of real or fancied analogies.

Many terms have not entirely lost their material meanings, but are used so commonly in metaphysical senses as to suggest no analogy except after research. Such a word is *right*, which is seldom used to describe physical relations except in geometry, and in its own derivative abstract noun "righteousness" is never so employed.

With many words the figurative use is still apparent, as when we speak of a *profound* mind, a *shallow* wit, a *clear* mental *vision*, *capacity*, *crookedness* of character, and the like.

It is clear that all the terms used to describe metaphysical ideas fall into one or the other of two classes of analogies: those derived from the animate world, which may be termed *biological*; and those derived from the inanimate world, which may be termed *physical*.

Thus, when we speak of the *growth* of the mind, of mental *exercise*, of spiritual *nutriment*, we are using a biological analogy. When we speak of *storing* the mind, of *building* character, or of *molding* it, we are using a physical analogy.

In common talk these various terms are used indiscriminately and cause no confusion, for common notions upon these subjects are at best somewhat vague. But when we are laying plans for educating the mind and begin to employ terms seriously and exactly, it becomes of great consequence what terms we use. It makes a great difference whether we treat the mind as a receptacle which can be *stored* with useful knowledge after the physical analogy, or as an organism endowed with life which is to be

*nourished* with knowledge and *strengthened* by exercise, after the biological analogy.

That the use of the wrong analogy has had much to do with the development of false and faulty systems of education and pernicious methods of teaching I shall endeavor to show in this series of articles.

The term "isolation" has been used to describe a plan of education, advocated by some, which might have been suggested by the story of Rasselas. It is, in brief, seclusion of the youth, during the period of education, from the ordinary interests and associations of life, in order that he may, undisturbed by the distractions which they offer, acquire much knowledge, and may by reason of such acquisition be fitted to take his place in the world after his restoration to it.

That such a view of education is closely related to the physical analogy applied to mind is evident. The recent exploitation of some of these views makes it seem not inept to endeavor to maintain the proposition, that the *end* of education is *social efficiency*, and that the *process* is one of *growth through nutrition* and *exercise*. This requires that the mind be regarded and treated as living and growing after the biological analogy, that we may have "life, and that more abundantly."

C. G. GILBERT.

DEPARTMENT OF PUBLIC INSTRUCTION,  
Rochester, N. Y.

## LITERATURE IN THE ELEMENTARY SCHOOL.

### II.

#### KINDS AND ASPECTS OF LITERATURE.

WE should theoretically be able to find specimens of each of the five great species of literature—epic, drama, lyric, novel, essay—adapted to the needs of the child; but practically we are obliged to omit the essay; for, as a matter of fact, the literary essay is in subject-matter too abstract and remote, and in style too allusive and evasive, for the child's mind. It reflects a mental life too complex to appeal to him. As it is actually constituted, the literary drama, also, represents a life so mature and involved as to be beyond the child's grasp. It is a pity that this is true, for there is much in the dramatic form and the dramatic principles that would seem to fit it to the child's needs. One can imagine little plays, making a combination of game and poetry, that ought to delight and train a child. But all attempts at such plays have hitherto been so lamentably weak on the side of the poetry as to be only a discouragement to the teacher of literature. But of the other three species there are simple specimens eminently suited to his purposes. One could not, of course, offer the child a developed epic; but there are bits of literature of the epic kind—ballad, hero tales, fairy sagas—precisely suited to him. We should never introduce him to a mature novel; but the *Märchen* are for him. He would be lost in the presence of the elegy, the sonnet, or the ode; but we may give him nursery jingles, songs, and other bits of simple lyric fit and right for him.

The element that fits the simplest forms of epic and novel—ballad, saga, and *Märchen*—for the child's use is that of story. The love of story is instinctive, and we can no more go back of it by way of explanation than we can go back of any other instinct. But it is an unfailing appetite. To the child the story is interesting, whether it is made an account of mere activities,

whether it organizes itself into an action, or, becoming more complex, takes on the added element of plot. In any of its stages it is a framework, a large form, a principle of organization, giving to literature its disciplinary value for the child. For him story is the art unit, the thread by virtue of which the material takes shape and becomes a unified whole. In his later literary experience he may find this principle of unification in a line of thinking or a flow of emotion; but in this early stage it is the story-form within which his literary material naturally organizes itself.

Now, story is a form useful for many purposes. Like language itself, it is the common medium of teaching in literature and in much information work. The arrangement of incidents and events according to any of the principles of consequence and subsequence, literature shares with science, with history, with life itself. But because a teacher uses words—even correct words—when he communicates with his children on the subject of hydrogen or pollen, he does not imagine that he is teaching them literature. No more is he giving them literary training when he uses the story-form to teach them the life-history of the dandelion seed or the experiences of Mary Stuart. The story chosen for literary training must be literature—art, not designed first of all to convey technical knowledge. Lest he should seem to himself narrow and severe in this matter, the teacher must constantly keep in mind that he is choosing out of the world of things written a few which he heightens into a discipline by placing them in the child's school training. This differentiates them at once from the things a child may read or hear read in his home or in connection with his other studies. It may be expedient for the child to come into contact with many books which a careful master would never select for his specific literary training. He may even get some literary training as a by-product of his contact with these books. But the far-sighted teacher chooses for his material in literature in the school those things that are real art, not deceived for a moment by the fact that these other things use correct and even beautiful language, and arrange themselves in the story-form.

It is first of all important to choose stories good of their kind. The same rules that enable a teacher to choose a good novel for his mature students will guide him in the choice of a good story for the children. He may demand of his *Märchen*, as of his novel, reasonable, logical, or credible sequence of events, economy of incidents, unity of interest, balance of parts, consistency of plot, sufficient or acceptable motive, ethical soundness, just or logical outcome, and general truth to human nature—which last he must by no means confuse with fact of human experience. When he applies his tests, let us say to the body of fairy-tales among which he must choose, he will find himself with but a scant dozen left, but they will be golden—and sufficient. If he applies them to the merest nursery tales, he will find himself obliged to leave, for example, *The House that Jack Built* for the child's play hours, while he transfers *The Old Woman Who Found a Sixpence* to his curriculum. Alongside it he will place Perrault's *Cinderella* and *Beauty and the Beast*, while he must relegate Grimm's *Cinderella* and *Jack and the Beanstalk* to the limbo of imperfect things.

This is but saying that the teacher of little children should be in literature, as in other subjects, an experienced student, an expert trained in literary criticism, widely read in literature. Only from the point of view of the largest experience, from the vantage ground of knowing the best, can he feel himself safe in choosing for the child among the apparently simple things.

While it is true that such a teacher may be trusted to choose his material where he will, there is wisdom in the conclusion, which all thoughtful teachers have reached, that for purposes of this specific literary training it is best to give from the beginning the old classic stories. The old folk fairy-tales, the old hero cycles are inwrought now with the world's culture, and should become a part of the child's art experience early. It is during his earliest school years that the modern child has his best period of psychic ripeness for the old stories. Of course, a teacher may from time to time give his child a modern tale. There are a few modern tales, indeed, that demand a place for themselves alongside the classics—nor need *The King of the Golden River*, or

*Toomai of the Elephants*, or *Little Black Sambo* be ashamed in the company of *Kluge Else* and *Cinderella*.

But more purposes of culture are served by the use of the old stories. It would be ideal if there were some inevitable form of these stories available for the child. We are obliged to acknowledge that we are always giving the *Odyssey* in a second-best way when we are giving it in other than Homer's words. But in this and similar cases we are obliged to sacrifice the important matter of original and perfect literary form in order to secure the many other advantages of great story and fitting subject-matter. As long as the teacher clings to the old tales and the old masters, he is saved from the temptation of trivial modern stories written for children, and the snare of information books, "nature stories," and what not, masquerading as art.

It seems to be good economy to teach the stories that go in cycles. Perhaps one of the reasons that *Jack the Giant Killer* is so early and so prime a favorite in the nursery is that he has a cycle of adventures. We are permitted to follow him on into new exploits, so that our interest in him is not foiled and wasted by the premature close of his career after one victory. So we have gained something of steadiness, we have economized attention and interest, when we have allowed the work in literature for a whole year to center in Robin Hood, in Odysseus, in King Arthur, in Robinson Crusoe, even though this center serve sometimes as a point of departure—that is to say, for the attachment of other and suggested bits of literature.

When it is possible to find within literature, pure literature, so much for the teaching of the child, it seems a pity that many teachers seek their material outside—in myth, for example. To study myth as literature seems an irreverence, because to the people who made it in every case it was religion. It seems unfair and prejudicial to the child's future sympathetic understanding of alien culture that he should learn to regard as mere stories those symbolic utterances which to the people who made them were spiritual interpretations of actual phenomena. Greek myth, in particular, which is most often selected for the child, is

spiritually very mature and complex — quite beyond the comprehension of the young student as religion, and much too full of spiritual significance to be presented as literature only. Every student is aware, of course, that there are mythical elements in the hero-tales and in the fairy-tales. Indeed, in the very Mother Goose melodies the scholar comes upon dim shadows of old religious rites and interpretations. But here myth has passed beyond the pale of religion and has become art, as certain religious ceremonies have forgotten their origin and passed into children's games. And, since they have grown incorporate into human affairs, the emphasis has shifted and we are looking no longer at religious explanation of physical and historical events, but at human experience in which these mythical elements are mere incidents. As a matter of fact, a great many teachers are using legends which they mistakenly call myths. So there is reason to hope that the fallacy of teaching myth to children is not so widespread as it seems.

The teacher of literature who is a trained critic must, in choosing his material, have naught to do with the pleasant snare of correlation. One who has vainly sought for a long morning a quotation strictly appropriate to some subject or occasion he has in mind, has been forced to conclude that the masters have been short-sighted or unaccommodating or "unpedagogic" in this matter. They have not had their minds upon correlation, and have not produced the things precisely suited to our needs; and we are, perforce, driven to suit our needs to what they have given us. The fact is, art does not correlate. It is by the merest lucky chance that now and then we do find a piece of really good literature, some of whose elements fit into the child's other work. As, for example, *Robinson Crusoe* in some of its aspects may correspond to lessons in colonization or in the primitive industries. But, as a rule, the teacher who forces a bit of literature to match a subject about which the child's other work is centering, has chosen a second-best bit of art, and has thrown no essential light on the subject; as if when the child was concerned with leguminous plants he should be reading Anderson's ethically unsound story *The Pea Blossom*;

or as if the teacher of literature, to illuminate and vivify his pupils' science studies, should classify and teach *Rab and His Friends* as zoölogy.

Not for a moment would a careful teacher weigh lightly the subject-matter of his material. But he realizes that the literature which is pure art does not handle technical subjects, but represents human life. And this seems a good place to say that, when we choose this somewhat limited body of literature, we should confine ourselves to that which does present human life. This does not, of course, exclude supernatural and preternatural elements, but it does place the emphasis on human life and affairs. There are and ought to be other opportunities for the child to learn to know the many pleasant beast-tales, old and new, that by inherent right belong to him, and, indeed, the teacher may introduce certain of these among his school material. But, on the whole, the stories that deal with human life will yield the child a more-sided culture. And these pictures of human life should, as a rule, be chosen among the serious things. This would not exclude all humorous things; and it is precisely humorous things that sometimes give us the truest and most serious view of life. But it would exclude from school work any large amount of nonsense, and all masses of nonsense. *Alice in Wonderland* has contributed, not only to the gayety of nations, but to the culture of mankind, and every well-taught child should know it. But he should come by it, as by most of his nonsense, in his hours of intellectual play. Good nonsense, by the very virtue of being good, lacks that thread of imaginative unity by which we need to hold in disciplinary literature.

Good fables are most serviceable in literary training. They are, indeed, an instrument that cuts more ways than one. The genuine fables of Æsop or Fontaine have in them always the elements of a good story. The teacher with some narrative and dramatic gift may easily amplify a fable into a thoroughly acceptable tale, because the groundwork of incident is practically always sound. And fable gives just the exercise the child needs in the understanding and interpretation of symbol and figure. It is best, of course, to suppress the moral—Æsop's or Fon-



taine's—and give the child or the class the privilege of working out a fresh moral or application, by way of interpreting the little story. It is not easy to find a quicker and easier introduction to artistic symbolism or a surer guide in figurative expression.

The interpretation of proverbs is profitable as an exercise in the literary type of thought and speech. They are concrete and picturesque rather than abstract, specific rather than general. But it is the abstract and the general that we are to understand by them. These qualities it is that give them their unique literary value. Of course, the teacher must call upon his own wisdom and training when he is choosing his proverbs. Many popular proverbs are pessimistic; many inculcate a merely commonplace or egoistic philosophy; some are ambiguous; some the modern world has outgrown; many are too mature in every way for the elementary child. But enough remain to sharpen his wits and increase his skill in understanding the secondary and figurative meanings of things—an absolutely essential matter in his literary training.

The lyric varieties of literature offer us some elements that we either do not find at all in the epic and novel kinds, or find in a form less notable and applicable. We have said that in many cases, in order to get the story we desire, we are obliged to take it in some secondary form—translation or other adaptation. We cannot read the *Odyssey* to the elementary child in Homer's phrase, the King Arthur stories in Mallory's, nor the adventures of Robin Hood in the old ballads. But in lyric we enjoy the privilege of teaching the child the only, the inevitable, the inseparable form. Like every other art, literature is on one side a craft. It has its technique as have drawing and music. It will not do to press upon the young child the minor matters of technique. But he can get very early a sense of craftsmanship, a feeling for the bit of literature as a thing in itself. He displays this very early in his own production. A rhyme that he has made is a jewel, a treasure; the mildest or crudest little figure of speech that he has himself devised is to him a genuine purple patch set in his little theme.

The lyric or other small bit of verse seems the best place to

teach the child appreciation of these technical beauties, in that measure in which he can consciously or unconsciously appreciate them. He does enjoy the verse of the mere nursery jingles, as also the music of lyrics too mature for him in subject-matter. And while one would not teach a child verses whose subject-matter is far beyond him, it is well to read in his hearing bits of the incomparable music of the great masters. A Beethoven symphony is on one hand difficult scoring, intricate counterpoint, complex orchestral arrangement. But on the other side it is a collection of separable pleasant sounds, it is melody, harmony, rhythmical movement, all of which make for the æsthetic enjoyment and ultimate culture of even the child. So one might, ignoring its difficult theology, read to his child the first sixteen lines of the *Paradise Lost*, for its resonant music, for its lofty collocation of resounding words, for its haunting sense of something grand and awful "evermore about to be."

Of course, in the ballad we can get the element of verse-form in combination with story, but it is in lyric that we find special beauty and variety of form and movement. This beauty and variety of music, together with its emotional subject-matter and its emotional appeal, set off lyric, indeed, from the other species. Just as we have opportunity in all literature to train a child in the appreciation of imagery and of figure, so every bit of literature makes its appeal to his feelings. But in the lyric it is more direct, more specific. His delight in some generous deed of Robin Hood is, as it were, an objective thing. His stir of sympathetic enlargement over the children who "sing in far Japan," and the "organ with the organ man singing in the rain," is an inner and deeper access of consciousness. Therefore it devolves upon the teacher to select with his utmost care those lyrics which have an emotional content and make an emotional appeal. Of mere jingles and bits of song we may ask only that they be musical or beautiful in imagery. Of the emotional lyric we must ask suitability, soundness, due measure of feeling. Of verses made for children let us be somewhat wary. One is tempted to say that after the Mother Goose melodies one can feel safe only in *A Child's Garden*. In Whittier's collection of

verse, *Child Life*, one may find scarcely a dozen poems he would like to put whole and entire into a child's consciousness. Like Whittier's own *The Barefoot Boy* and *In School-Days*, they are verses about children—an old man's reminiscences of childhood, conscious description of childhood or comment upon it, and therefore thoroughly unchildlike and unsuited for the child's training. Much more acceptable are some of the simpler songs of the masters—Shakespeare's "Under the greenwood tree," Wordsworth's "The cock is crowing," Browning's "The year's at the spring."

For lack of a better term, we were obliged to speak of story as an element of literature, of form as an element, of feeling as an element; so we are obliged to speak of character as an element, though these are by no means co-ordinate and mutually exclusive aspects of the subject. Character constitutes a real and legitimate interest of the child in literature. He is interested in people apart from their attempts and achievements. To the very small child Little Boy Blue, Tom the Piper's Son, Miss Muffett, and the rest, assume a distinct personality. Of course, to so young a student as the elementary child it is static character and striking types that are interesting. He is languid in the presence of the more esoteric and differentiated types, and no character evolution more delicate than the degeneration of "Struwwelpeter" or the conversion of Cinderella's sisters appeals to him. But he loves his heroes and hates his villains, and stroke by stroke builds up his ideals enriched and enlarged by that halo of beauty and feeling given them by the atmosphere of literature. One need not discuss character or invite the child to discuss it. But the teacher will find that the heroic, the beautiful, the pathetic, the wronged, the wicked, the unrepentant, stand in the child's mind clearly and effectually discerned. Concerning all human life and human affairs the child has an insatiable curiosity, an unceasing interest. It is no small thing that he may in literature see them conducted nobly and beautifully. The child must be forever more open and more generous who has once felt the spirit of boundless hospitality that pervades the *Odyssey*; who has there seen

"On the steps of the palaces, kings  
Coming and going with presents and things."

Of the outcome and issue of human events the child will learn much in literature. It often requires the teacher's best skill to direct the experience of the little people here. They will not willingly accept a tragedy. Like the little girl in Wordsworth's *We Are Seven*, the negative view is simply not a reality to them. This may be due to some supernal truth of vision, which their elders have lost. But we all know that tragedy is sometimes the way of life and often the way of art. The teacher must see that the tragedy works its legitimate purification of the feelings, or becomes accepted as the inevitable outcome of the circumstances. It is good to know that it may do both. The child studying literature often needs guiding in his criticism of the outcome of events. He is not inclined to accept legal justice in which it seems to him the effect is alien to the cause. Logical justice is too likely to hurt somebody he loves or to spare somebody he hates. So your class rises as one man and demands poetic justice. The teacher here has a pretty problem, if the outcome of his events be logical justice, to reconcile his class to it, and at the same time keep the tuneful emotional mood he would like.

It is surely best to select for the child those presentations of life that have a distinct issue and outcome, leaving realistic uncertainties and inconclusions for his later experience. The people and environment of the child in life may not always be chosen. But in literature we may see to it that the people he knows and the surroundings he encounters make for joy and for culture.

It would be possible, and it might be instructive, to bring this matter of the choice of elements and kinds much nearer to the practical teacher by speaking more in detail, and by the criticism of specific examples and types. But to the thoughtful and creative teacher a prepared curriculum is an offense. Let him but have some knowledge of the child and an expert's knowledge of the principles of his material, and he can hardly go wrong in his choice of the individual specimens.

PORTER LANDER MACCLINTOCK.

DEPARTMENT OF ENGLISH,  
The University of Chicago.

## FROM ROUSSEAU TO FROEBEL.

WHEN a conscientious teacher feels herself destitute of enthusiasm, she turns naturally to books for the inspiration which she does not find in the routine of her work. Enthusiasm, indeed, must have something else to feed upon besides the reiteration of detached bits of elementary knowledge interspersed with more or less practice of simple, manual arts. This need explains the frequent craze for percentages and competitive examinations. They impart a spurious kind of ardor which has, however, nothing in common with professional zeal. For we must recognize that teaching, like every other profession, has a spirit peculiar to itself. This spirit arises, not from studies *per se*, but from the relation of the teaching art to life and its purposes. Just as a lawyer uses his knowledge to secure certain advantages for his client, so the teacher uses knowledge to secure a certain result in her pupil. The possibility of this result lies not chiefly in the knowledge she imparts, but in the nature of the pupil, and it is insight into this nature that gives the teacher professional ardor and professional skill. This insight is not rare among women, who constitute the majority of our elementary teachers, but it is easily lost under the pressure of the many influences that tend to withdraw attention from the pupil and fix it upon measurable and stereotyped results. It is to counteract this tendency that educational reformers of the hour place so much stress upon the study of psychology. They do not exaggerate the importance of the subject; nevertheless the formal study of psychology is not likely to prove inspiring to an apathetic mind; indeed, its truths can be grasped and practically applied only by teachers who are in sympathy with the living spirits around them, eager to understand and to interpret their manifestations. If this sympathy be wanting or dormant the emotional nature must be stirred. Now of all writers on education Rousseau is the most moving. He affects us through

the imagination, and this he does by virtue of a remarkable power of presenting his ideas in the form of living personalities.

Consider a teacher, inert but not incapable, who chances upon the *Émile* and reads it for the first time. The teaching art, the art which she has hitherto performed as a series of aimless, disconnected exercises, is here set forth as a continuous, purposed, inspiring activity. The successive efforts of tutor and pupil arise one from the other like the incidents in a swiftly moving romance, all tending to the grand consummation, and all revealing in their progress the inner play of will and intelligence. "We do not know childhood," says Rousseau; the teacher assents. "Begin then by studying your pupils;" the injunction has become one of the commonplaces of the hour, but in this setting it takes on new significance. For the whole of the *Émile* is a study of this kind unremittingly pursued by the tutor. His method is far removed from that of the scientific observer; he is not concerned about the genesis of Émile's personality nor the interplay of biologic and psychic elements; he accepts the personality as a fact and sets himself with unflagging purpose to develop this personality to its full power, so that the pupil may be proof against the rush of circumstances that forever threatens to absorb or submerge the individual. Amid a thousand artifices and contradictions with which the work abounds, this unchanging purpose of the tutor stands out in vivid light, and thus by one brilliant stroke the author illustrates the meaning and scope of child-study as it pertains to the teacher and illuminates for her the initial source of her professional activity.

It is, however, as an awakener, not as a guide, that Rousseau is of lasting interest to teachers. He frees the mind from the weight of traditional rubbish and puts it upon an independent search for truth. The great lesson of the *Émile* is obvious, but it needs little discernment to discover that Émile himself is a fictitious being and that the conditions required for the experiment of his education are possible only in the brain that invented them.

The notion of the individual which Rousseau flung upon the

world with startling effect was destined to receive a far more profound interpretation from another reformer, whose work, separated from Rousseau's by a brief interval of time, bears to the other something of the relation of the flower to the seed.

It is perhaps unfortunate that Froebel's name is so identified with the kindergarten that it carries little weight with grade teachers. It is unfortunate also that a certain mysticism in thought and a certain obscurity of style prevent that pleasure in the mere perusal of his writings which is so powerful an attraction in a work like the *Émile*. Happily these hindrances have been greatly overcome for the American student by Hailmann's translation of Froebel's great work, the *Education of Man*.<sup>1</sup>

The central idea of this, as of Rousseau's masterpiece, is the personality of the child, but the child of Froebel's thought is the antithesis of *Émile*. Isolate him as *Émile* is isolated and he ceases to be himself. The very feelings which Rousseau ignores, the social sympathies, the vague outgoings of the soul that we name religious instinct, are the most characteristic signs of the child's inward nature; hence he can be known only through his instinctive activities under normal conditions. He will not, puppet-like, play his part in a preconceived drama of development, but will forever challenge attention by deviations from the expected course. This he does of necessity from the very energy which makes him individual—an energy which, as Froebel divines, cannot be understood until one penetrates beyond its individual manifestation to the mysterious sources from which it is derived. "Man as such," says Froebel, "must be viewed and treated as related to God, to nature, and to humanity." By the unfolding of this philosophic conception he draws the teacher to a tender and reverential regard for the child, and at the same time reveals the relation of her work to the deepest truths of the universe. Viewed in these relations, human personality assumes an aspect far transcending the latent possibility of *Émile*. It appears rather as an originating, unifying force; hence the stress

<sup>1</sup> "International Education Series," Vol. V.

that Froebel places upon doing, not that the child may learn more by doing, but may more fully realize himself.

It is well to note here that doing, in Froebel's sense, does not imply in particular manual exercises. These, in fact, he subordinates to language, of which he says, "Language is the self-active, outward expression of the inner," and again, "Language is inseparably one with the spirit." The verbal recitations that make up so large a part of our school exercises, when rightly conducted—after the manner, for instance, described by Dr. Harris,<sup>1</sup> or suggested by Dr. Dewey in a fascinating chapter on "The School and the Life of the Child"<sup>2</sup>—afford as full scope for the child's originating force as any effort with brush or tools. If the former may degenerate to a mere parrot repetition, the latter may as easily sink to the most mechanical copying.

But the purpose here is not to indicate practical applications of Froebel's principles, but rather their effect in the responsive mind. Method—the mode of approach to the child, the treatment of subjects—determines itself freely and harmoniously in proportion as the inward spirit is enlightened. Signs of this illuminating influence, this *renascence* of the soul, meet us on every side. We recognize them in the creative impulse that is replacing the early industrial phase of our art education and in the ethical spirit which is penetrating our formal instruction. Transformations they are in the Froebelian spirit.

ANNA TOLMAN SMITH.

BUREAU OF EDUCATION,  
Washington, D. C.

<sup>1</sup>Originally in the *Report of the St. Louis Public Schools*, 1869-70, pp. 173, 174; also in the *Educational Review*, October, 1902, article "How the Good School Strengthens the Individuality of the Pupil."

<sup>2</sup>See *The School and Society*.



## ENGLISH IN ELEMENTARY SCHOOLS.

### II.

IN a former paper I spoke of the importance of imitation in the learning of language and of the student's great need in the elementary school, namely, more time for self-expression and for oral reading. The present paper takes up briefly the question of grammar.

Some thirty years ago it was discovered that the grammars of Brown and Greene were too hard for children, and the country has since been flooded with substitutes called language books. There was a sudden flowering of pedagogical interest in the child's attitude toward language. This flowering came at the same time with the invention of Sunday-school music and Sunday-school stories. The language books diluted the grammar in various ways. Bits of poetry alternated with discussions of nouns and verbs, and the child turned from the solemnity of *Thanatopsis* to that of object complements. Here and there appeared patches of useful information—bits of the biography of respectable poets, lists of common abbreviations, etc. Rules for punctuation and proof-reading sometimes appeared, as a neat compliment to the precocious child. The worst of these books taught neither grammar, literature, nor composition. The best of them taught a little of each. But, in spite of all faults, they marked a great advance in teaching English. There was an immense gain in sympathy and practicality. If any ambitious young writer doubts this, let him attempt to make a few textbooks that will do more for a child than an equal number of Mr. Swinton's did and can.

Latterly there are signs of a reaction in favor of formal grammar. A course of rather a stiff nature is now given in the last year of the grammar school, or even earlier. Probably the child of fourteen is now expected to analyze as well as his father did at sixteen. There are at least three reasons for the reaction. First, there is a desire to teach advanced studies to those whose

schooling closes with the eighth school year. Secondly, there is a feeling that language books fail to produce the requisite degree of correctness in the student's speech. Thirdly, there is the desire to ground certain students in grammar before they begin Latin, French, or German.

For one, I believe that too much formal grammar is taught in the grammar school. I believe that most of the time now given to this subject might better be given to literature, or biography, or composition, or oral reading, or drill in oral English.

To take up the causes of the reaction in order, what shall we say of the lad whose schooling is to cease with the grammar school? Does he need to be finished off with parsing and analysis? Parsing and analysis are good mental drill of a certain sort, but have they any magic not possessed by English composition? The average boy cannot, on leaving the grammar school, write a good business letter. He cannot narrate a day's happenings clearly. He cannot (in writing) describe his dog so that a stranger could identify it. I know that nowadays there is a certain apathy toward this matter of learning to write. The extremes of educational theory seem to meet and form a bar against composition in the eighth grade. The conservative educator thinks that formal grammar must precede writing. The radical is afraid that children will learn to write before they have anything to say. Now, heaven forbid that the child should learn how little adults say which is worth saying, or how little even the proverbs of Solomon have influenced the animal humorously called *sapiens*! We all agree that boys should not shed innocent ink over the "Pleasures of Anticipation" or the "Fall of Rome;" but is it abnormal that young Knickerbockers should be able to write a decent letter by the time he is ready for algebra and the kings of England? The boy whose schooling ends with the grammar school steps out into a world that, for all its materialism, knows something of values. Good handwriting, clear and ready self-expression, the ability to read the daily paper aloud intelligibly—these things have a cash value. The subjunctive mood has not, and it cannot be demonstrated that the subjunctive has any superior, compensating moral value.

The second reason for the reaction lies in a feeling that systematic grammar ought to make correct speakers where language lessons have failed. But systematic grammar is not systematic drill directed to eradicating errors of speech. It is an explanation, more or less illusory, of the why and wherefore of usage. Knowing why does not cure the fault. The average child is a slave to habits of wrong usage, and his only hope is to become the slave of better habits. The grammar cannot cure the faults of the language book. Only smaller classes and earnest personal effort can do that. Indeed, no book can be devised which will turn out great numbers of correct speakers as by machinery.

The third reason for the reaction is the desire to fit students properly for the study of foreign languages. It is very common for teachers of Latin to feel that their students should be good parsers and analyzers before they begin Latin. Perhaps they are right; but, if so, it may perhaps be demonstrable that the study of Latin should begin at sixteen rather than at fourteen. French is different; as a living language it can be learned without any knowledge of formal grammar, and therefore at an early age. So eminent a grammarian as Henry Sweet, in a matured statement of his views on teaching language, recently expressed a doubt whether Latin and Greek should be taught in secondary schools. This is a fact which should give us pause. One thing is certain: grammar is at present a science which applies to inflectional languages chiefly, and can best be taught through the medium of a dead language.

There is another objection to the teaching of formal grammar, namely, that grammar is at present largely traditional and unscientific. The scientific study of language is still in its infancy. It is the marvel of education that, in spite of the immense importance of linguistics, this most ancient of studies should be so little affected by modern knowledge. It is true that our scholars know much more about the physiology of sounds than their fathers did, and more about the history of words and constructions, but they have not furnished us with the principles of a universal grammar, based on a sound psychology. How far from secure are the bases of linguistics

appears when we glance at the terminology of grammar. We lack terms for many concepts which must underlie any comprehensive science of language. Suppose, for example, that a thoughtful boy wants to know what a "word" is. A boy is far more likely to ask such questions than a collegian is, for the latter person is concerned with the forms of words. The boy might question a roomful of grammarians in vain to learn whether *going* is one word or several. A few would tell him that *going* is at least two words. Most would tell him that *going* is one word with various uses and ancestors, but they would presently speak of the noun *going* and the adjective *going*, and insist that the two words should not be confused. Woe to the young teacher who goes to the library, being troubled as to what "mood" is! She will learn that mood is manner, that mood is not manner but feeling, and that mood is neither manner nor feeling but a word with a certain termination or a certain ablaut. If she opens half a dozen of the best grammars used in 1902 in the best American grammar schools, she will learn the following curious things about mood: (1) English has no moods in common use except the indicative and the imperative; (2) English has subjunctives at present, but they are often the same in form as indicatives; (3) English has no subjunctive forms at present except in a very few verbs, but any indicative may become a subjunctive by following the word *if*; (4) English has no subjunctive mood except in a very few verbs, but it has a potential mood; (5) English has no potential mood properly so called, but it has potential phrases; (6) English has an indicative mood, a subjunctive, a potential, an optative, and a conditional. Or let us suppose that the word questioned is "tense." She finds a future tense in Sweet's great grammar, but she finds Whitney speaking of the "so-called future tense," and on turning to Strong, Logemann, and Wheeler's *Introduction* she learns that "phrasal tenses" are properly "not tenses at all."

These absurd contradictions are not isolated or peculiar. They are easily paralleled in every branch of the grammar now taught to children. Even the analysis of sentences, which our fathers regarded as a great advance on parsing, and which

is still supposed to furnish invaluable mental discipline, is a purely arbitrary business.

The unfortunate terms "subject" and "object" are still in use, though they cannot be defined, and though they reflect an outworn psychology. The terms "principal" and "modifier" are suggestive and helpful, but they are usually applied in a way which utterly ignores the point of interest in the sentence. The term "subject and predicate" appears in one grammar as naming the chief elements of every sentence, but across the county line another grammar insists that children should always see a subject, a copula, and a predicate—three terms instead of two. If the quarreling logicians are to set the hands of our grammarians, our teachers, and our children against each other, why should not the psychologists, or any other group of people, be represented in the grammatical terminology? Why should not a sentence consist of focus and fringe, or foreground and background, or engine, coupler, and caboose?

I close, therefore, as I began, with a plea for less grammar and more drill in usage; for less grammar and more skill in communication; for less grammar and more vocabulary—the vocabulary of noble living, as recorded in literature and biography. Nor need there be any sacrifice of system in leaving formal grammar till later in the child's life. Systematic instruction in the use of English is precisely the thing that is sacrificed to the subjunctive mood and those other vague and terrible deities.

E. H. LEWIS.

DEPARTMENT OF ENGLISH,  
The Lewis Institute, Chicago.

## THE GRAMMAR SCHOOL.

THE period covered by the years just preceding adolescence has been and continues to be in a very real sense the school of letters, or the grammar school. Whatever may be best for the earlier years, there is seldom a voice heard calling us to delay the learning to know how beyond this time. The work of the period has broadened to include much more than the old-time symbols, yet the newcomers are all tools, and in the old school and the new school this is a time for tool-mastering.

It is due perhaps to this degree of unanimity that this division of the school oftentimes seems to receive less careful attention than is given to the others. There are many faithful and efficient principals and teachers in this section ; in fact, in our public schools, the test of a teacher for these grades is, oftentimes, ability to discipline and to follow the course of study without much assistance ; but, on the other hand, there is less thought given to it by the thinkers than is the case elsewhere. It is easy to name educators of prominence in the kindergarten, primary, secondary, normal, college, graduate schools, but it is not so easy to find those who speak for the grammar school. The superintendent who goes to work on the course of study is fortunate if he works through the fourth grade before the detail of his work sweeps him away from the schoolroom into his office.

The pressure from above requires that the eighth grade accomplish certain technical results, but this is not infrequently the most formal accomplishment of the entire course, and it casts its shadow over the years preceding it, so that, without direction, there is little chance for even the teacher with originality to contribute to the study of school economics.

I have found in some of our larger cities a strong desire on the part of primary teachers to get into the grammar grades. In almost all cases, when this wish has been traced down, it has been found to have its root in the effort to escape supervision. This

is no doubt sometimes an adverse criticism upon common methods of supervision, yet one who has attempted to do this work realizes the great difficulty there is in avoiding mechanical relations under present conditions. I can see, however, no other way out. In a formal sense the grammar school is often very perceptibly organized, but of organization in its meaning "the placing of responsibility" there is very little in it.

I discussed recently some out-of-school questions with a man who constantly employs many hundred men. His summary of the situation was as follows: "I never attempt to save on clerical help and supervision. I give every boss all the office force he can use, and I hire as many first-class men to manage and plan work as I can find, and then I have to spend all my time keeping them out of ruts." The last clause is somewhat discouraging, yet it is not strange that with all the attention given to mechanism we have few who rise above it. It is natural either to rebel against it and lose its help, forgetting what Caird says, "though life and spirit are more than mechanism, they are not without mechanism," or to become its slave. The new era of college presidents promises much for the future of other officers of organization and administration in the school.

The specific need, then, in the grammar school is more supervision—this as a first step to better standards of supervision, with a view to securing more original thought on the part of the teachers and pupils and, as a matter of course, greater economy of time and energy spent and more work accomplished. This undoubtedly will result in many changes and in increased expense. When Dr. Dewey's *School and Society* came out, a schoolman who read it said: "That plan will never work; it will take too much money. The people do not want to spend more money, but less. When we asked the trustees of a certain section, 'What apparatus in certain lines do you wish our students who are preparing to teach to become familiar with?' a characteristic answer was, 'What we want is teachers who can get along without our spending money on apparatus.'"

There is truth in this, and yet it is remarkable how money will come to the support of a real idea with a real plan for its

execution. Many of our schools are receiving as much as they deserve now. The difference in various sections of equal wealth shows how largely this is a matter of the larger community education, which is by no means one of the least duties of the school, although often unregarded. The common-sense of the business-men of a community will not stint the schools when needs are understood. As one president of a board said to a principal, after the latter had presented the need of clerical help: "I had never thought of it before, but it would be foolish to hire a man at your salary and put him at work in my office licking postage stamps."

We shall never command the desired support until we have increased efficiency all along the line. Of course, the converse of the proposition can well be urged. The most important consideration is that progress is evident, but to utilize fully that progress there must be more consciousness of it, and this requires more workers with broad horizons. Every school problem needs consideration by someone to whom it is an immediate personal matter, but just as much it requires thought from one who sees larger relationships. One means toward this is through the educational periodicals. The *Educational Review* serves the general field well, the *School Review* has done much for secondary education—the elementary school and normal school have not fared so well.

Another means is better organization in normal schools and colleges. It seems that in the former the greater part of the effort spent is to bring poor material up to a passing standard, while there is no time or energy left to put upon those who are at all able to stand alone, and who could, with a little help, become centers of power and training. Like the examination system for teachers, this keeps out the poorest, but it also keeps out the best. In the university not infrequently students of very different degrees of attainment are classed together, and there is little opportunity as yet in education for the advanced study and direct association with great teachers found in the higher work in other subjects. When this is given, the relation between the laboratory and the school will be better established.



No part of the school has greater need of this association than the grammar school, and none offers a richer reward for study. The early workers will have the benefit of conditions under the law of increasing returns. Someone has characterized these years as the lean kine eating up the fat kine of the grades below. Relatively this may be true, although absolutely the fat of the earlier years is not excessive. But the fact that personal qualities are so strongly weighed in securing kindergarten and primary teachers has given that section an advantage.

We need more light as to the proper constitution of the school above the third grade. The one-teacher system is one extreme, and the departmental is the other. It seems to me that a clear compromise on the following lines is one way out: a strong man or woman in charge of twenty-five or thirty children, teaching about half of their work and free during the rest of the day, to keep thoroughly in touch with their other subjects. It is no doubt an advantage for this class-teacher to do a little teaching in a grade above or below, in order to have a basis for comparative study; but the weakness of the departmental system lies in the apparent necessity of employing all of a teacher's time in recitation work, thus giving the impression that the recitation is an end rather than a means, and also giving no opportunity for integration of the studies. These are the years during which the various main branches of the curriculum differentiate themselves from the primary trunk, and the greatest care is needed to keep connections. If class-teachers could be made to order, I would wish to have them all equal to problems touching three things: (1) mental and physical health; (2) the mother-tongue; (3) music. These seem to me to need the most direct contact.

The upper grades have experienced considerable rough experimentation, and from this there seems good reason to believe that the secondary school should begin with the seventh grade. The seventh, eighth, and ninth grades form a natural division and may well be grouped together. In fact, in so far as divisions are necessary, grouping by threes seems more natural than by fours. Primary supervision usually extends through three years, and the fourth, fifth, and sixth grades have

a common basis. Secondary education beginning in the seventh need not mean beginning Latin there. I was interested to find in some of the English schools that boys who entered with no Latin two or three years after a class had begun that language had little difficulty in doing the work of the class, and in some of our high schools I find those who have had Latin in the grammar school classed with those who have had none when they enter the high school. It surely should not mean giving up the contact with a class-teacher. It would be well if high schools recognized this need more, and even the colleges, through an enlargement of the function of the deans, met it. But it will mean a definite accomplishment of fundamental work in English, utilizing the advances and avoiding the failings of high-school English during the last decade; the modern languages can then gain a footing as yet seldom realized; practical aspects of higher mathematics will here gain recognition and lay a foundation for stronger theoretical study; the aptitude of students at this age for the work of the shop and laboratory will be made use of, and will lead to better skill in the college years, so that the charge made against many students of dentistry, medicine, technology, etc. — "They have no hands" — will be less valid.

The first advances can best be made in this section. When the program here is clearer, much can be done in the intermediate grades, for the unification of the kindergarten and primaries now at hand promises a good foundation.

This summer I had the opportunity to visit a camp in which were a dozen boys of these middle grades from families whose circumstances in large cities render them especially dependent upon the school for the resources of education. On Sunday morning they took a walk in the woods, and not a tree was found with which most of them were not already acquainted. In the afternoon we attended a children's-day service. Only one of the boys came from a family belonging to a Protestant church, one or two were Catholics, several were free-thinkers, and at least one had never been in a church before in his life. All entered into the service intelligently. Before it opened I

noticed that they were very busy with the hymn-books; one of them had found a hymn whose music was by Haydn; and soon they were all searching with interest for other music by Haydn, and later that of Mendelssohn.

The church showed on the inside its roof construction. The boys began to discuss this. The standard strains were stated, those in sight classified, reasons for their use clearly and definitely given, and all done with as great interest as would ordinarily attach to the discussion of a prize fight, and yet all quietly and without any disorder.

After church I was fortunate enough to be invited with them to a luncheon at a home near by. When this was over they gathered about a teacher at the piano and sang for half an hour or more music with words of the type of Lowell's "And what is so rare as a day in June?" On other occasions I saw them at play by themselves in the woods at games of their own origination. All of these activities indicated the kinds of resources that may well be secured during these years.

FRANK A. MANNY.

SUPERINTENDENT, ETHICAL CULTURE SCHOOL,  
New York City.

## THE TRUE PLACE OF ENGLISH IN THE PUBLIC SCHOOL WORK.

It will doubtless be generally agreed that, while English is not all or even the greater part of what should be taught in the school, it is an indispensable condition of progress and is perhaps the greatest factor of the public-school work. To illustrate by comparison: if it is said that transportation is an indispensable condition of commerce, it does not mean that transportation is all of commerce. There are other things without which we could not have commerce, such as farming, manufacturing, lumbering, cattle-raising, etc.; but it still remains true that without transportation there could be no commerce.

English is the medium through which our children both gain and impart ideas, and these ideas may be perfect or imperfect only as the medium of thought is more or less perfect. An imperfect medium cannot give a perfect idea. Many pupils fail in their lessons because the words and sentences have either no meaning or an imperfect one.

The English is of value to them chiefly for what it does. It gives a better understanding in geography, in arithmetic, in history, and in all other subjects. The pupil who has a good command of English can think better and see more clearly into any subject.

One great difficulty in teaching pupils in the elementary studies is that they see the subject "as through a glass darkly," on account of an imperfect comprehension of the language of the subject. Each study has a language of its own, in a certain sense, and there can be no efficient work in it till the language is mastered. For example, take that arithmetical bugbear, bank discount. Most of the pupils who fail in this fail from a lack of comprehension of the language of the banker. The terms are new and mean nothing to them. A language drill is necessary as a preface to each lesson. Another instance is that of pupils who at home hear only a few words used, and perhaps these few

used in a local sense. The teacher will have to enlarge the vocabulary of those pupils and, what is more difficult, teach the proper use and application of the one already acquired.

It is true, as has so often been said, that nothing so quickly tells against one's educational training as poor English, either in speaking or in writing, and for this there are two reasons : First, every educated person is a competent judge of English. He may be ignorant of any number of technical matters ; he may not be able to interpret an architect's drawing or a lawyer's brief ; he may not be able to distinguish "fossil Silurian" from "Devonian," or know the difference between "placer" and "deep" mining ; but he does know whether a singular verb is used with a plural subject ; whether an objective pronoun is made the subject of the sentence ; whether capitals and small letters are properly distributed ; whether the spelling is phonetic or correct ; and whether the arrangement of material is logical and clear. Second, though good English, like good manners and a becoming dress, is not absolutely essential to character, or useful knowledge and skill along many lines, it is generally held to be the best possible index to the amount of education and culture one really has had. Hence failure here is quickly held to indicate incompetence along all lines.

It seems necessary to protest against the "study of English for English's sake." One might as well talk for talk's sake, as indeed many people do. English, to be the core of the common-school course, must be studied, *not as an end, but as a means.*

The tendency has been too much toward making the form the object of our work in English, when the true object should be the content. The form must be mastered, but only for the sake of the content.

English is the key that unlocks all knowledge ; and we must remember that education has a combination lock and that its adjustment is complicated. English for English's sake makes it only a plaything, a pastime, a fad ; but English as a means leads up to higher knowledge and larger desires.

English, which is essentially the nucleus of the public-school course, can be made so only by being studied scientifically. The

idea seems to prevail in some quarters that, while other branches require scientific study, English will somehow develop itself in the understanding without giving attention to its science. It is thought that knowledge of technical grammar is unnecessary, all that is needed being the ability to speak or write sentences; and it is even implied that the study of grammar is the reverse of beneficial. There is no convincing reason for entertaining such a theory. The principles of grammar are as essential to the speaking and writing of correct English as are the principles of mathematics to the successful solving of its problems. It is true that our pupils would learn to speak and to compose sentences without the study of technical grammar, and so the most illiterate learns to express his ideas and communicate his wants without even learning to read; but the fact that the actual necessities of life are met in both cases is no reason for arresting education at these points. Is it not time for educators to realize that a shortcut to any branch of learning is an impossibility? Eternal principles should guide us in English as certainly as in all other studies.

It sometimes seems that the teaching of grammar has fallen upon evil times, for the recent forms of language lessons have so weakened the whole subject as to leave out the heart of English grammar.

It is true that formal technical grammar should not be commenced until the pupil can understand its laws, and with this feature of the modern plan the writer is heartily in sympathy; but it would seem that in our strenuous efforts to avoid the mistake of forcing analysis and parsing upon the unprepared mind we have gone to the opposite extreme. We are trying to make a fragmentary, mechanical method of imposing aimless sentence-making upon our classes answer the purpose of beginning the study of English, whereas the subject should from the first be taught inductively. All work given should have definite meaning. Both induction and deduction should be employed, examples developing definitions, and definitions being applied to examples. For the present heterogeneous mass of unsystematic talk and writing in the lower grades, with its lack of responsibility

for definite progress on the part of teacher and pupil, we should substitute the steady, persistent, and connected study, with the committing of the rules and principles of English grammar, followed by concrete application, and with as strict accountability to the teacher for every failure as we require in the study of arithmetic. Complaints from the secondary schools of poorly prepared candidates for admission to their courses in rhetoric and composition are too numerous to be neglected by those in charge of elementary work. A higher standard should be required before leaving the grammar school, and a more systematic, unified course of instruction carried on from the primary school up. A knowledge of his mother-tongue to be thorough must grow with the child's growth.

We read that Michael Angelo was the first artist of modern times whose work was true to anatomical structure. *We know* that the work of Michael Angelo is the most glorious and satisfying legacy of art that has descended to us. And so, by analogy, those works of literature will be the greatest and most permanent whose authors knew thoroughly the science as well as the art of their language. Even the inferior Latin authors are an illustration of the value of literary work done by those who thoroughly understood the structure of their mother-tongue.

The value of composition work from the beginning cannot be overestimated. There should be time in every grade for practice in constructing sentences, paragraphs, and essays, always carefully examined by the teacher and then corrected by the pupil.

The teaching of composition work, like the teaching of English in general, should be such as to show the pupil that composition is a means and not an end in itself. The function of language is to express thought, and no amount of drill upon words can teach the use of language if thought is not awakened and employed throughout. The child is not given composition work primarily for the sake of composing, but for acquiring ability to express his thought. There must therefore be something within to express, and to this purpose language should be taught in connection with literature, history, science, and other studies, instead of as a branch by itself. If our pupils could

reproduce in writing the substance of the majority of their lessons, the work would serve as a continual review of other branches as well as a language lesson. They would thus treat subjects of which they know and are learning something. Nothing is more futile than the attempt to have pupils express in writing ideas upon subjects of which naturally they can have but little knowledge. A fourteen-year-old pupil should not be asked to handle such subjects as "Immortality," "The Dignity of Labor," or "Hitch Your Wagon to a Star." Abstract subjects in general should be avoided, for the visible, material world is the scene of the child's experiences, and no one can bring forth from his mind what has never existed there. The subject treated must be clear in the child's mind before he can make it clear to others.

The teacher should encourage the development of an individual style in each pupil's composition, and refrain from such criticism as would have the effect of injuring the natural characteristics of the different writers, while he should give the necessary general training. The superior attractiveness of short sentences, of good Anglo-Saxon words, and the strength of the simplest form of expression should be impressed upon all.

With the aid of the modern text-books, it should not be difficult for the teacher to make the study of English pleasant as well as profitable. In these days of many reading-books carefully compiled by scholars, there is no excuse for the use of the wishy-washy, trashy school readers once prevailing. "The fat cat sat on the mat" style of primer is quite as much out of date as the "Do we go up? Yes we do go up" style.

The reading of good literature is second only to the constant example to correct speech for the work of cultivating the pupil's English. The store upon which the English-speaking child has to draw is practically inexhaustible, and though we should not now give Dr. Johnson's advice to spend days and nights on the reading of Addison, we should agree with him that to acquire the power to express thought in pure, noble, vigorous English, no better way can be advised than that of the extensive reading of our standard authors.



We are all at fault in the present generation in allowing ourselves to form the habit of too much newspaper and magazine reading. We deliberately sacrifice the time which should be profitably as well as pleasantly spent in the reading of our best books and higher-class periodicals to the skimming over of great masses of matter presented in the daily newspapers and cheap journals. The deleterious effect upon the memory as well as upon our appreciation of pure English should be a sufficient warning to us to preserve our children from this habit. The children especially should have none but good models of English provided for their reading. The introduction of dialect stories into the children's magazines is most deplorable. It is strange that writers who have the ability to use the best English should offer productions filled with unnatural and ungrammatical constructions and incorrect spelling, but if there must be dialect stories, let them be read by older people and not by children whose habits of expression are now being formed. The literature read by the child should be expressed in pure and beautiful language, since its purpose is to train his mental faculties as well as to aid his moral development, and should be a most potent means of culture in its form as well as in its content.

If it is not possible to make the sentiment against promiscuous reading by children sufficiently strong to extend to their home reading, the schools should at least do all in their power to counteract the deadly influence of "newspaper English" by presenting the best of our weekly and monthly periodicals for their use at school, instead of encouraging the reading of the slipshod, slovenly articles usually hurried into the daily editions. The excellent plan in vogue of giving brief daily lessons on current events could be made still more valuable by advising only the highest class of newspapers and periodicals as aids and requiring the pupils to name their authorities. Not only this study but every recitation may give opportunity for training in the use of good English. The old-fashioned practice of cramming the memory with the exact words of the text-book has fortunately given way to that of reproducing the facts and

information in the pupil's own language, and thus the opportunity for daily improvement and culture is invaluable.

Although the science of grammar can be learned from text-books, the art of expressing ideas clearly and forcibly can be learned only in one way—by using language in the expression of original thought. Of scientific, methodical instruction in language there is especial need in America, since our schools almost invariably represent a variety of races, and therefore the children of our schools have not to aid them the hereditary facility in the use of English which they would have had in the native language of their parents.

If our ideal of language instruction could be realized, there would be no reason for such an arraignment of the work of our schools as is found in a recent number of *Harper's Magazine*:

Inaccuracy in applying the foundation principles of good reading, good writing and good reckoning.

Indifference to the importance of accuracy in the same.

Ignorance of the fact that literature, if it is to be of any vital use, must mean far more out of school than it ever can within.

HELEN L. GRENFELL.

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION,  
Colorado.

## MATHEMATICS IN THE PROFESSIONAL SCHOOL. II.

### PEDAGOGY OF ELEMENTARY MATHEMATICS.

GEORGE W. MYERS.

BLINDED to educational values by zeal for their subject, or biased by the desire to go the easier way, many teachers of elementary mathematics still argue, as almost everybody argued fifty years ago, in favor of the high disciplinary value of the pure memory work of arithmetic. Notwithstanding the fact that fifty years' experiences are against this view and that psychologists are pretty well agreed that memory is the one mental faculty that cannot be cultivated, some of us still cling to the traditionary notion. That a more discriminating insistence, by friends of mathematics, upon the relative educational values of the various aspects of arithmetical study would redound to the credit of this study as well as to the benefit of education, there can be little room for doubt. Drill work, *memoriter* exercises, committing rules, and the other things which make up the *mechanics* of arithmetic, have no great educational value in themselves, and very much of such work is stupefying. On the contrary, analyses of the conditions on which the solution of problems depends involve the exercise of attention, comparison, and judgment, and have therefore a high value in education. These statements are corroborated by the circumstance that very few great mathematicians, either as boys or as men, ever manifested more than ordinary skill, and many of them not even ordinary skill, in the purely mechanical parts of mathematical study.

The mechanical work of arithmetic should be reduced to the automatic as soon as possible. All teachers have observed that the mechanical parts of arithmetic are reduced to the automatic state much sooner by some pupils than by others. It does not seem to be a matter of common observation, however, that the great mathematicians come from the *dilatory* class. On closer

examination we readily recognize in this the truth that a quick and retentive memory conduces to superficiality. As elementary mathematics is commonly taught, memory is too often the only faculty appealed to, so that the paradoxical rule may usually be followed with safety: "Pick the future mathematician from among those pupils who do not get on well in their elementary mathematics."

But this need not be so. It would not be so if in our teaching of arithmetic we should pay more attention to the needs of the growing faculties of the child than to the ill-considered assertions of bank officials as to the overmastering importance of accuracy and speed in the mechanics of arithmetic. Premature accuracy is one of the worst things the mathematical teacher can strive for. On this point it would be well for the teacher to bear in mind that the bank official's ideal employee is a *machine*, not a *man*. Let us therefore look to a higher source than the mart for our mathematical pedagogy!

There has been not a little theorizing of late on the possibility of fixing the number facts of addition and multiplication upon the memory with sufficient permanence through *use*. Believing, though the writer does, in this *possibility*, he has not as yet been privileged to see this possibility actualized. Still he is encouraged not to discard his belief by the consideration that he has not yet seen a conscientious and consistent effort to realize this possibility put forth by a teacher whose grasp of mathematical truth was any augury of success. Such an effort by such a teacher would, however, go far toward giving an educative value to the part of mathematical study which is a burden to teachers and a bugbear to pupils.

Finally, we shall be better able to understand why this subject of arithmetic, which has never had a large number of friends among educators, still holds so important a place in the curriculum, if we recognize that the demand for the subject is social and industrial rather than educational. We could not discard it if we would, since it is the *sine qua non* of success in so many other fields of human activity. The work of the class-room should therefore be based largely on such problems

as are met in everyday life, and the right sort of mathematical pedagogy will render proper account of these *extra*-curricular demands. The outlines which follow are a continuation of those in the October number of the *ELEMENTARY SCHOOL TEACHER*:

#### B. NOVEMBER OUTLINE.

I. Further use of linear, square, and cubical measure and weights applied to concrete and useful problems involving the four fundamental processes. Problems to be taken largely from the other subjects.

II. Notation and numeration of large numbers (to 10,000).

III. Short and long division and simple fractions.

IV. Decimal fractions begun in connection with problems (*a*) in United States money and (*b*) in the units of metric system.

V. Multiplication table and tables of denominate numbers mastered and used continuously.

VI. Extensive applications of fundamental processes in problems of daily life.

VII. Beginnings of geometrical surveying.

VIII. Use of simple equations and their transformations.

IX. Common and decimal fractions completed.

X. Foundations of percentage laid.

XI. Simple scale drawing and graphical representations.

XII. Making drawings for use in manual training.

XIII. Making apparatus in manual training from drawings.

XIV. Meteorological records discussed and reduced.

#### C. DECEMBER OUTLINE.

I. Arabic, Roman, and index notations and numerations mastered.

II. Use of checks and short methods.

III. Mensuration of common surfaces and solids.

IV. Symbolic representation of arithmetical laws.

V. Practical problems involving more extended analyses and computations.

VI. Indirect measurement—land surveying.

VII. Observational astronomy.

VIII. Problems relating to business, banking, discount, etc.

IX. Graphical representations.

X. Solution of some problems both algebraically and arithmetically.

XI. Positive and negative numbers used.

XII. Practical geometrical constructions.

#### D. OUTLINE FOR ELEMENTARY MATHEMATICAL PEDAGOGY (WINTER QUARTER).

The course for the winter quarter may be outlined under the following captions:

I. Aims that have hitherto controlled in the teaching of arithmetic: (*a*) practical, (*b*) utilitarian, (*c*) theoretical.

II. Why have these aims controlled? Contemporaneous sociological and civic demands.

III. Modern aims.

IV. Origin and nature of the number concept: (*a*) the objective element (multiplicity of things); (*b*) the subjective element (relating faculty); (*c*) numbering is *ordering*, *vs.* numbering is *measuring*.

V. The most important aspects of number used by text-book writers: (*a*) group aspect; (*b*) measuring aspect; (*c*) ratio aspect.

VI. Methods, so called, of teaching numbers: (*a*) method of symbols; (*b*) of things; (*c*) logical method; (*d*) psychological; (*e*) ratio method; (*f*) fixed-unit method; (*g*) variable-unit method; (*h*) spiral method.

VII. Function of number most used in: (*a*) daily life; (*b*) science; (*c*) education; (*d*) number theory.

VIII. Physical and mental needs which give rise to the operations of: (*a*) addition and subtraction; (*b*) multiplication and division; (*c*) fractions and percentage; (*d*) involution and evolution.

IX. Reasons for and against introducing elements of algebra and geometry in grades.

X. Changes and improvements needed in the teaching of elementary mathematics: (*a*) explicit use of the equation in arithmetic; (*b*) some topics dropped, some introduced; (*c*) arithmetic should be given a sociological aspect; (*d*) improvements in language of science; (*e*) better preparation of teachers.

XI. Number-work of nature-study, history, geography, manual training: (*a*) virtues; (*b*) vices.

XII. Introduction of work from industrial occupations.

XIII. Values of arithmetic in education: (*a*) practical value; (*b*) culture value.

#### E. OUTLINE FOR SPRING QUARTER, ON MATHEMATICAL PEDAGOGY FOR THE SECONDARY SCHOOL.

I. Mathematical subjects in the secondary school.

II. The bases of geometry, algebra, and trigonometry: (*a*) axioms; (*b*) definitions.

III. General methods of establishing truth in geometry: (1) equality by superposition; (2) mode of proving inequality; (3) principle of *reductio ad absurdum*; (4) principle of parallelism; (5) principles for measurement of central and inscribed angles; (6) principle of reducing the mensuration of all plane areas to that of the triangle; (7) principle of limits; (8) principle of reducing solid geometry to plane by analysis of figures.

IV. What mathematical knowledge the pupil should have on entering the secondary school.

V. Needs of students: (*a*) who do not go beyond the high school; (*b*) who expect to attend a university, or technical school.

VI. Simultaneous teaching of algebra and geometry.

VII. Correlation of mathematical subjects with science subjects: (1) from standpoint of pupil; (2) from standpoint of teacher's preparation.

IX. What is the aim of the study of geometry? of algebra?

X. Algebra: (*a*) as a preparation for the study of functions; (*b*) as a study of the equation and laws of its use.

XI. Exemplification of algebraic principles by the numbers of arithmetic.

XII. Use and abuse of axioms in transforming equations.

XIII. Sequence of topics in teaching of: (*a*) geometry; (*b*) algebra.

XIV. Classification of equations with reference to degree; graphical representation of their solutions.

XV. Fundamental principles of factoring.

XVI. Questions to be raised on taking each new step: (*a*) why is it correct? (*b*) can it be reversed?

XVII. Field and laboratory work in algebra and geometry: (*a*) geometrical surveying; (*b*) solution and discussion of the equations of science and engineering.

XVIII. Place and relation of secondary trigonometry.

XIX. Observational astronomy and constellation study.

XX. Correlation of mathematics and physics in the secondary school: (*a*) argument from standpoint of subject-matter; (*b*) argument from standpoint of pupil; (*c*) argument from standpoint of teachers' preparation.

XXI. Study of leading texts in algebra and geometry for the high school.

## PHYSICAL TRAINING.

C. J. KROH.

THE principal factor in our well-being is the maintenance of the elasticity of our "faculties" through their appropriate and regular use—the cultivation of the capabilities of action with which we are endowed. The determining motive, therefore, in a general scheme of educative physical training must aim for the development and reinforcement of the qualities of character exemplified in vigor of mind and body, and its co-essential, sound and robust health.

Physical training, or developmental school gymnastics, in its various phases, implies infinitely more than it has been possible thus far to incorporate into any general scheme of education. Its aims should reach far beyond the period of school life and become evident in the success of every sphere of practical life. Progress in this largely underrated phase of school work, as in everything else, signifies a constant enhancement of results. Results depend for their effectiveness on the integrity of the methods employed. These, again, must not be based upon a mere proximate evaluation of the work proposed in the gymnastic curriculum, but depend for their efficacy on an appreciation and careful weighing of the prevailing conditions. Failure in this one respect has not infrequently been directly responsible for the hesitation and authoritative laxity encountered in the advancement of this work.

A mere outline of progressive aims, without a practical enlistment of the reinforcing influences coincident with all educational procedure, may make the best of purposes futile. Isolation on the part of the physical-training master and of his work signifies an impairment of thoroughness. Omissions in this regard react through the conservatism of those who should be esteemed the most wholesome sustaining agencies.

To realize the possibilities of effective physical training the earnest co-operation of every member of the teaching staff is



absolutely required. To this end consultations concerning the expediency of measures conducive to the best interests of the pupils are of first importance. Physical training in its relation to the school program, and in its relation to the general scheme of physical training, as outlined in definite class aims, must be defined. The aims and ends determinative in the work adaptation of the different grades must be elucidated. To obviate defective classification, the grouping of individual pupils and classes, and the factors determinative for such grouping, must be discussed, that the most profitable organization, devoid of all friction and retarding influences, may be facilitated. Pupils of like abilities should be grouped together. The time assignment for the regular physical training and the recreation periods should be adequate and made proportionate to the actual needs of profitable work. The recreation periods must be determined in a measure by the convenience of the teachers, who should not only assist in the arrangement of the games, plays, field sports, and outings, but actively participate in them.

One of the earliest results of such an understanding should become perceptible in the improved movement of the whole school, in an order characteristic for its freedom of development within the general plan that governs and unites all.

These suggestions imply much more than the mere encouragement of health-promoting activities, or the insistence upon hygienic attitudes, the observance of the laws of health, and attention to the various class-room adjustments contributive thereto, or even acquiescence in the design of the respective programs. They imply that the background of this phase of school activity should be exploited and brought out in stronger relief; that skill should be exercised in enhancing the value of this important link in educational work by establishing its relation to the realities of life through the means presenting themselves in the opportunities of the regular curriculum.

What is the content of such training? Is it representative of factors emphasizing in the fullest all conduct? Is it constructive work of the highest order?

The index of a pupil's mind is best revealed in a study and

comparison of his physical and mental activities and states; it is not as clearly revealed in the recitation alone. The play of his instincts before, during, and after the gymnastic lesson, or play period, may reveal certain necessities. Eagerness and aptitude are frequently indicated for certain activities and studies, which the skilled teacher will wisely associate with his erstwhile inclinations. Studies of an exacting nature are contraindicated immediately after physical training. The susceptibilities of the mind are again profitably approached and aroused only by whatever attracts and appeals during this temporary period of leisure. Habits of thought and convictions depend in no small measure on these phenomena. Relations are gradually discerned. History and literature, with their wealth of elevating and stimulating influences, should be exploited at this time, in order that such causal and rational relations may be sustained, and ordinary "tasks" relegated to the hour of more favorable states. Indeed, such procedure may add zest to a lesson in gymnastics, preceding it, and enable the pupil to express, in some form or other, his experiences, after the lesson. The arts provide such forms of expression. Beauty of form, strength and grace in action, as exemplified in the analysis of action-forms in the gymnasium, may become a means of enhancing the faculties of observation, memory, and reasoning.

The function of studying the pupil, his development and tendencies, necessitates certain data, which should be easily accessible for reference. This can accrue only when the recording of tests and records is participated in by the pupils. The physical records need not be as numerous as indicated in previous outlines in the *COURSE OF STUDY*; they should include only those items which are absolutely necessary to indicate the principal proportions and condition. Height and weight should be recorded as a basis for determining the condition of a pupil. The items of girths, breadths, lengths, and depths must indicate the normal measures of the respective ages on record cards furnished, on which the pupil can contrast his first and second entries and compare the differences. Profitable work is offered here. Indeed, there is no dearth of opportunities for measuring.

force, distance, and speed in connection with the work in physical training. The study of conditions before and after exercise, as ascertained in pulse, heart, and lung tests, of respiration tests under varying conditions, leading straight to the study of individual needs, of environmental conditions, and all it implies,<sup>1</sup> can be made most profitable in accentuating the physical-training work.

It is the design, during the current year, to review the work concurrent with these suggestions in the various grade reports. These reports will take the place of the practical work outlines printed last year.

#### SUGGESTIVE WORK OUTLINES FOR OCTOBER AND MAY, AND INTERVENING MONTHS.

*October.*—Organization: Arrangement of grades and groups—upper grades, sexes separate. Regulation of attendance, exercise—see gymnasium directions. Dispensations. Hygienic precautions, care of body, dress adaptation to work, bathing, etc.

Recording of physical measurements: age, weight, height, girths, breadths, lengths, and depths.\* (Seat and desk adjustments.)

Tests: Sense of rhythm, direction; co-ordinative power.

Climbing, jumping, and running records.

Special: Examination of lungs, heart; condition. Vision, hearing.

Gradation and division of pupils into regular and special groups. Assignment of school and home work; play periods—direction. Corrective work.

Measurements, tests, and records retaken in May.

<sup>1</sup>One of the most profitable studies of one of the grades during the past year began with a study of ventilation and the properties of air, followed by a measurement of lung capacities and calculations of amount of air needed individually in the school and in the home living-rooms. This was followed by a series of lessons on anatomy and physiology of the lungs, based on observations of the human body and supplemented by a study of anatomical models. Records of temperature, pulse rate, etc., were taken before and after various activities, and relations and effects of exercise ascertained. For work in other grades—number and history—see grade outlines by VAN HOESSEN, THOMSEN, and others, in *COURSE OF STUDY*, Vols. I, II.

\* The individual relations of pupils to the normal standard of age, height, etc., percentages above and below the average, should be charted and compared by the pupils themselves on charts provided for that purpose (cards 5 × 8 inches), and under the direction of the regular teacher. The various growth influences and their relations to educational problems can be most profitably studied only if the necessary data are in the hands of the teacher for ready reference. Pupils may be given two cards to fill out, one for the home and another for the schoolroom record.

For practical work outlines, see grade outlines, Vol. II, COURSE OF STUDY.

An outline of practical school gymnastics, on the basis of definitive grade aims, will be issued in pamphlet form during the year.

Work of the grades incidental to studies, eventually leading to dramatizations and illustrations of typical scenes and actions, including gymnastic reviews, games, plays, and sports in season, and their expression — art side — to be represented in connection with the monthly morning exercises, the whole school participating. The various grades and classes contribute on these occasions in regular order to the subject of their respective exercises, or on some special line of work, on the basis of their information and skill.

#### GRADE AIMS.

*First grade.*— Emphasis on exercises, especially of the larger groups of muscles, and regulation of breathing. Promotion of growth through the stimulation of breathing and circulation in exercise in light and air; recreative form of exercise. To be avoided: any form of exercise for strength, even in the smaller muscles, in order not to consume the material necessary for growth; avoid also any demand upon the young nerves through premature training in that direction.

Plays and games: For testing, developing, and sharpening the sense-perceptions. Sight: differentiation of (*a*) form; (*b*) color. Hearing: distance, direction of sound. Feeling: distinguishing objects according to form and weight.

*Second grade.*— Incentive to growth and blood-formation, as above. Strain of muscle avoided in consideration of the growing process.

Plays and games: Imitation games, based on sense-perceptions. In addition: modes of sack and ball tossing and catching.

*Third grade.*— Importance of improved bearing and carriage (improved holding power); cultivation of poise; erect position in address. Promptness in response. Accuracy in execution of combinations of simple exercises in free gymnastics.

Plays and games: To be added: short, competitive games.

*Fourth grade.*— Importance of correct posture concepts in varied combinations of movements. Light to medium exercises for endurance — running, apparatus gymnastics (rhythmic series of similar recurring movements, as "traveling"), never to the point of fatigue.

Plays and games: To lower reaction time between definite sense-perceptions and definite actions.

*Fifth grade.*—Improvement of volitional control through effort in new co-ordination problems—free and apparatus gymnastics. Improvement of gait and poise, balancing exercises. Special adaptation of running and jumping exercises; moderately increased demands. Preference for the more active running games. Training for pleasure in action. Introduction of elementary dancing calisthenics (girls).

Plays and games: To be added: "Antagonistics" in groups, employing apparatus, as: poles, ropes, etc. (like orders, without individual distinctions).

*Sixth grade.*—Development and practice of the characteristic forms of apparatus work—preparation for exercises of skill. Training for dexterity. Agility, alertness, cultivated in the practice of games; importance of forms leading to the more active outdoor games. Systematic marching, running, and jumping exercises with increased demands for endurance. Avoidance of over-strenuous efforts.

Plays and games: As above. Ability to recognize advantages and to follow most practical procedures. Reaction of one of several sense-perceptions through most practical action suggested. Quick discernment, judgment.

*Seventh grade.*—Importance of heart and lung action; moderately increased demands in apparatus work; lighter "theme work;" development of representative action; constructive "series" of exercises. Endurance: moderately sustained activity, *i. e.*, rhythmic, much increased activity. To be avoided: real strain; mere ornamental and aimless drill.

Plays and games: As above. Analysis of action-forms, representative of games and sports; practice of foundation movements in characteristic sports.

*Eighth grade.*—Exercises of skill on apparatus; outdoor athletics. Training for dexterity and pleasure in action. Outdoors: speed over short courses; running; endurance, long distances, moderately slow and fast; walking and running, with careful increase of duration. Practice of sprints, starts, dashes; emphasis of conscious effort. Strenuous efforts leading to disturbance of breathing and circulation to be avoided.

Plays and games: "Antagonistics"—team work, like and unlike orders. Practice of the higher organized games in simplified form. Forms of relay racing, team plays, and class contests.

Special course. General and applied gymnastics. The correlation of school gymnastics with school work in general. System and method in outlining the year's curriculum. Organization, direction, co-operation of teachers.

Pedagogics of gymnastic instruction. Methods of reinforcing progress; processes of progressive gymnastic development in advanced work—technique, form.

Practical school anthropometry, including physical tests and measurements, and inquiries to determine condition. The adaptation of develop-

mental measures to class and group work, and individual treatment. The results of scientific investigation, and the needs of the normal body; values and effects of procedures.

The organization of forms of recreation on playgrounds. Field days. The planning of indoor and outdoor gymnasia.

Practical work throughout the year:

First quarter: (*a*) Advanced apparatus gymnastics; (*b*) development of skill in the use of hand apparatus; (*c*) springing exercises, forms of jumping, vaulting, leaping.

Second quarter: Apparatus gymnastics; (*a*) foil and sword fencing; (*b*) boxing; (*c*) dancing calisthenics.

Third quarter: Apparatus gymnastics; (*a*) tactics, evolutions, drills, roundels; (*b*) gymnastic and character dancing; (*c*) forms of antagonistics.

Outdoors — fall and spring — athletics: putting shot, throwing hammer and disk, pole-vaulting, hurdling.

#### HIGH SCHOOL.

I. Apparatus gymnastics: Exercises for dexterity, involving quick co-ordination and leading to skill and control: Cultivation of ease of movement, form, and grace, through sequential practice orders leading to definite gymnastic exercises. Springing exercises, as jumping and vaulting, with especial attention to execution and form, and to the avoidance of over-exertion.

Games of alertness. Dancing calisthenics, to improve grace and ease of movement.

II. Apparatus gymnastics: Exercises for strength and skill; increased demands in co-ordinate activity in various combinations of typical forms, leading to endurance. Training for track and field exercises; walking, running, jumping, high and broad. Swinging and hurling of grip-balls and light weights; ball-throwing. Dancing.

III. Gymnasium and field work: Training for condition; prescribed work; use of developing appliances. Practice of special forms; pole-vaulting; sprint races, hurdle practice, throwing hammer, putting shot. Gymnastic games. Military exercises; stick fencing, foil fencing. Dancing.

IV. Gymnasium, field, and track work: Contests between gymnastic and athletic teams and clubs. Competitive forms of exercise: apparatus gymnastics; field and track athletics; military exercises; fencing, etc.; games and sports.

#### PEDAGOGICAL CLASS.

The work of the first-year students of the pedagogical class will consist of a progressive course of practical school gymnastics, illustrative of the fundamental procedures, analysis, technique, and order of gymnastic movement forms. The course includes tactics, free exercises, tacto-gymnastic

exercises, apparatus gymnastics, dancing calisthenics, the simpler organized games, sports, and plays ; also forms of antagonistics and team work for indoor and outdoor recreation. Fall, winter, and spring quarters.

Second-year students. General theories and principles of school gymnastics. Survey of material. The correlation of gymnastics, of free gymnastics and apparatus forms. Methods of arrangement and adaptation. Instruction. A course in general gymnastics with special reference to the class aims embodied in the general scheme of gymnastics of the School of Education: study of purposive and effective training, of sequence and co-ordination in gymnastic procedure on the basis of gymnastic knowledge derived from a study of the structure and functions of the human body. Interpretation of individual needs and qualifications. Application of gymnastic principles to school recreation in the direction of plays, sports, and games. For work synopsis see Vol. II, No. 1, July number of *COURSE OF STUDY*.

Plan of work adaptation : Purpose, to meet the physical requirements of pupils through the selection of appropriate material ; to enhance power and skill through progressively co-ordinated action ; to study physical development as judged by actions and attitudes ; estimates of condition, of strength, control, mobility, and flexibility ; degrees of volition, attention ; accuracy in execution, etc.; importance of foreseeing and counteracting tendencies toward faulty action and posture.

#### GENERAL DIRECTIONS.

The cultivation by the pupils of an erect carriage and good bearing must be insisted upon on all occasions, at all times. Pupils will be required to rise promptly and to stand properly, correctly observing the fundamental standing position, with head erect and chest active. A frank and open look should be characteristic of their address. In all study and recitation the closest attention will be given to physical exercise, and all exercises will be correlated with the other work of the school. In manual training, music, and oral reading, and in constructive work of all kinds, the normal development of the body will be kept steadily in view. Pupils persisting in faulty attitudes during recitations will be referred to the teachers' assistants for special gymnastics.

The physical training proper, not immediately connected with subjects of study and expression, will be of two kinds, concerted and individual. Pupils who, through some bodily defect or weakness, are not equal to concerted work will have individual and corrective work.

Particular attention will be given in all seasons of the year to the adaptation of the dress of the pupils to physical exercise, and no clothing, wraps, tight bandages, or inelastic belts, in any way restricting freedom of action and a natural development, should be worn. Rubber shoes or boots should not be worn during school hours.

The physical training must always be conducted in pure air, and short, vigorous exercises given whenever needed. Plenty of light is also advisable. Study the ventilation of the rooms and test the air by outdoor breathing. The temperature of the class-room should be about 68°.

If practicable, exercise in the open air, outdoors. Avoid unnecessary exposure to drafts. The work should be essentially contributive to the health and spiritual freshness of the children and students, and must be directed as a means of developing personal vigor. Outdoor exercise, therefore, is preferable to room drills.

In the same way that the children are led to gymnasium practice they must also be introduced to gymnastic play. Experience teaches that even the games of children must be first learned, and that these need preparation and practice, extension and limitation, as does every other pursuit. There are pupils whose disposition is opposed to the normal activities of childhood, in whom an indoor life has destroyed the inclination to play. In others the zeal for play must be tempered. Children needing special attention in physical training are brought to the offices of this department by the teacher's assistants, who will receive instructions for the work of such pupils. Such work is to be directed by the assistant teachers at a time specially designated by the regular teacher, or as advised. Reports concerning state of health, progress, regularity of school and designated home work are to be made regularly.

On presentation of children for special work, the regular teacher's detailed statement in each case is desired.

#### GYMNASIUM ORDER.

Be prompt, regular, and orderly.

Attend in gymnastic costume.



"Align" quickly, noiselessly. Observe the proper attitude of "attention" upon the call to order.

Throughout the regular work observe closely the "order" prescribed. Do not leave your place without the consent of the instructor or class leader. The general plan governing all demands your attention to the work in hand.

Always take part in the exercises of the division to which you have been assigned, in class or group work, game, or play. Changes from one group to another are arranged between the respective class leaders.

In all work, other than class or group work, do not attempt the execution of an exercise which you have not personally developed. Do not attempt without assistance difficult exercises not thoroughly practiced and mastered. Exercises not dangerous are to be practiced only in the presence of an assistant. Each person is therefore bound to assist another when called upon. Always assist those eager to work before and after the regular class work.

Instructors and group leaders will always see that all exercises follow in their natural order and in gymnastic sequence, beginning with the simple and gradually leading to the more difficult exercises.

Apparatus set for class or group practice must not be rearranged without the consent of the instructor in charge.

After regular practice all apparatus must be properly replaced, unless otherwise ordered.

Carry the mats; do not drag or fold them.

Do not sit on the apparatus.

---

The ushers will accompany visitors introduced to the places reserved for them. Class members not at work are assigned to the visitors' row.

All visitors must be introduced or present cards of admission, obtainable at the dean's office.

---

The members of the various classes have the privilege of organizing teams and groups for special practice and competi-

tive work. All candidates for the practice of games requiring exceptional activity, however, must be presented at the office of this department before entering upon such practice.

Periods for team plays can be arranged for only with the consent and under the supervision of the regular teacher, or some responsible person.

Team play or practice shall at no time take the place of the regular physical-training lesson, or conflict with the regular schedule.

Set games and team practices must be arranged for by the officials of the respective teams, who shall report their dates and arrangements at this office.

All apparatus, chairs, or benches used during special practice, whether for the convenience of spectators or class members, must be replaced upon the close of such practice.

The officials of teams and practice groups are responsible for the observance of the above rules.

## FRENCH.

LORLEY ADA ASHLEMAN.

C'EST le langage parlé, signe direct de la pensée, qui donne la clef du langage écrit. C'est par l'imitation fondée sur la compréhension de la langue parlée et de la langue écrite, qu'on acquerra facilement l'art de parler et l'art d'écrire. La répétition des impressions qui frappent la vue et l'ouïe fixe dans l'esprit les matériaux du langage. C'est se tromper étrangement de croire que la grande facilité avec laquelle les enfants apprennent leur propre langue est l'indice de leur aptitude à apprendre les langues en général. Ce n'est pas parceque la mémoire prédomine chez l'enfant qu'il apprend si facilement sa langue. *Cette acquisition ne consiste pas à retenir des mots : ce sont des idées, des propositions entières qui l'occupent avant tout ;* les mots ne viennent qu'à leur suite. Ses progrès, il les doit à sa condition physique et mentale qui fait de la langue maternelle un objet incessant d'attention. Il ne conçoit pas une idée, n'éprouve pas une sensation, un plaisir, une peine, qu'on n'y attache pour lui une expression qui se grave ainsi dans sa mémoire par l'association.

*Ne débitex pas des phrases vides.*

The French for the second, third, and fourth grades is briefly outlined in the *University Record*, May number, pp. 25, 26, 27.

Each grade will work out a part of the little play *Joliet au château Saint Louis*, which will be represented by the children at one of their winter parties.

Joliet, after hearing the report of his trip, which is to be sent to the French court, is invited by Frontenac to attend an evening gathering in the "grand salon." A few scenes of the *Bourgeois gentilhomme*, which was at that time being played by Molière and his troupe in Paris, are given by the gay French officers then residing in Quebec.

The children of the castle are to give their own songs and dances in place of those used by Molière. The third grade will dance and sing, "Il était une bergère," "Sur le pont d'Avignon," "A la pêche des moules." The fourth grade will sing "Le chevalier du Gué," and in connection with this, the seventh grade will write and tell fourth-grade stories relating to the old idea of chivalry. The fifth grade will learn fencing for their fencing lesson given in the *Bourgeois gentilhomme*, and will be responsible for the more technical parts of the little play.

In connection with the play *Joliet au château Saint Louis* a great deal of outside reading will be done, both in English and French. The librarian will make a reading list from which the children will choose books and

recount to each other what they have read. The French reading lessons will be class work, *Les lettres du Père Marquette, Québec, Talon le célèbre intendant, Louis XIV: sa cour, Molière à la cour*, etc.

Many of Marquette's descriptions of animals, fruits, and vegetables will be used as enigmas for other grades studying French. An excursion will be taken to Lincoln Park (zoölogical department) to verify Marquette's descriptions.<sup>1</sup>

A study of the dress of that period will be made both in design and color, after which the children will make their own costumes to be used in the different rôles of the little representation.

### JOLIET AU CHATEAU SAINT LOUIS.

#### SCÈNE I.

(*Mise en scène.*— Une salle dans le château Saint Louis. Québec, Louis de Baude, comte de Palluau et de Frontenac, neuvième gouverneur de la Nouvelle-France, écrit à une table. Près de lui se tient un page d'honneur en costume de cour. La porte s'ouvre, un laquais paraît, il annonce le Sieur Joliet. Joliet salue le représentant du roi à la porte de la salle. Le comte de Frontenac par un signe lui indique de prendre place à côté de lui.)

*Frontenac* (souriant). Vous me trouvez en train d'écrire un rapport de votre découverte. Vous avez eu le courage pour ne rien appréhender, ou tout était à craindre. Vous avez eu la conduite et la sagesse qui sont les principales parties pour faire réussir un voyage dangereux et difficile. Si après avoir passé mille sortes de dangers vous ne fûtes venu malheureusement faire naufrage au port proche de Montréal, vous ne laissiez rien à souhaiter au succès de votre voyage. Mais, dites-moi, quand avez-vous trouvé le Père Marquette ?

*Joliet*. Le jour de l'Immaculée Conception de la Ste. Vierge.

*Frontenac*. Et vous êtes parti pour la découverte de la Grande Rivière?

*Joliet*. Le 17 jour de mai 1673 nous partîmes de la mission de St. Ignace à Michilimackinac.

*Frontenac*. Avant de faire naufrage et de perdre vos papiers, vous vous êtes arrêté au fort Frontenac. Comment y avez-vous trouvé La Salle ?

*Joliet* (vivement). Fort bien. Je lui ai raconté tout notre voyage. Aussi mes cartes et tous mes papiers l'ont bien intéressé.

*Frontenac* (sérieusement). Je vais vous lire ce que je viens d'écrire. Je compte l'envoyer en France.

(Il lit à haute voix :)

"QUÉBEC LE 14 NOVEMBRE 1674.

"Retour du Sr. Joliet de son voyage à la découverte de la mer du sud.

"Le Sr. Joliet, que *M. Talon* \* m'a conseillé d'envoyer à la découverte de

<sup>1</sup> Some of La Fontaine's fables will also be read and memorized.

\* Talon, le célèbre intendant.

la mer du sud, lorsque j'arrivai de France, en est de retour depuis trois mois et a découvert des pays admirables et une navigation si aisée par les belles rivières qu'il a trouvées que du lac Ontario et du fort Frontenac on pourrait aller en barque jusque dans le golfe du Mexique, n'y ayant qu'une seule décharge à faire dans l'endroit où le lac Érie tombe dans le lac Ontario.

"Ce sont des projets à quoi l'on pourra travailler lorsque la paix sera bien établie et quand il plaira au roi de pousser ces découvertes.

"Il a été jusqu'à dix journées du golfe du Mexique et croit que des rivières qui du côté de l'ouest tombent dans la grande rivière qu'il a trouvée . . . on trouverait des communications d'eaux qui mèneraient à la mer Vermeille et de la Californie.

"Je vous envoie par mon secrétaire la carte qu'il en a faite et les remarques dont il s'est pu souvenir, ayant perdu tous ses mémoires et ses journaux dans le naufrage qu'il fit à la vue de Montréal, où il pensa se noyer, après avoir fait un voyage de douze lieues et perdit tous ces papiers et un petit sauvage<sup>1</sup> qu'il ramenait de ce pays-là.

"Il avait laissé dans le lac Supérieur du Sault Ste. Marie chez les Pères des copies de ses journaux que nous ne saurons avoir que l'année prochaine, par où vous apprendrez plus de particularités de cette découverte, dont il s'est très bien acquitté.

"FRONTENAC."

*Le laquais* (qui depuis un instant est entré et debout, derrière le comte, attend cérémonieusement). Pardon, mais les dames attendent le comte de Frontenac dans la grande salle.

*Frontenac* (se retournant vivement). Ah oui, je crois qu'il aura fête dans la grande salle ce soir (riant), une surprise. Voulez-vous m'accompagner ?

(Le Sieur Joliet s'incline profondément ; ils sortent.)

## SCÈNE II.

(*Mise en scène.*—Le grand salon du château Saint Louis. Vaste pièce. Guéridons, fauteuils, tabourets. On remarque un rideau qui cache le fond du salon.<sup>2</sup> Des groupes de femmes très élégantes ; des officiers en brillant uniforme ; des jeunes filles, belles et modestes ; Monseigneur de Laval avec le clergé de Québec. A gauche près d'une fenêtre quelques Hurons,<sup>3</sup> regardant avec intérêt ce qui se passe autour d'eux. Tumultes de voix et de rire. Frontenac se dirige vers les Hurons, toujours accompagné de Joliet. Un page qui vient d'entrer par la droite s'avance cérémonieusement vers le rideau.)

*Le page.* Les officiers du régiment de Carignan vous prient d'assister à la représentation de quelques scènes du *Bourgeois gentilhomme*, comédie que Molière et sa troupe viennent de jouer à Paris.<sup>4</sup> Les musiciens et les

<sup>1</sup>See COURSE OF STUDY, Vol. II, No. 6 (February, 1902), "Fifth Grade."

<sup>2</sup>The children will arrange the grouping with the historic personages of the period.

<sup>3</sup>Les Hurons étaient campés près du fort Saint Louis.

<sup>4</sup>Après avoir entendu la pièce une seconde fois, le roi fit appeler Molière et lui dit : "Molière, vous n'avez encore rien fait qui m'ait plus diverti."

musiciennes, ainsi que les danseurs, seront les enfants des spectateurs N'ayant pas eu le temps d'apprendre les chansons de Molière, les enfants y substitueront les leurs, ainsi que leurs danses.

(Toute la société applaudit. Le rideau se lève.)

## LE BOURGEOIS GENTILHOMME.

### ACTE PREMIER.

#### SCÈNE I.

(Un maître de musique ; un élève du maître de musique, composant sur une table qui est au milieu du théâtre ; une musicienne, deux musiciens, un maître à danser, danseurs.)

*Le maître de musique* (aux musiciens). Venez, entrez dans cette salle, et vous reposez là, en attendant qu'il vienne.

*Le maître à danser* (aux danseurs). Et vous aussi, de ce côté.

*Le maître de musique* (à son élève). Est-ce fait ?

*L'élève*. Oui.

*Le maître de musique*. Voyons . . . Voilà qui est bien.

*Le maître à danser*. Est-ce quelque chose de nouveau ?

*Le maître de musique*. Oui. C'est un air pour une sérénade que je lui ai fait composer ici, en attendant que notre homme fût éveillé.

*Le maître à danser*. Peut-on voir ce que c'est ?

*Le maître de musique*. Vous l'allez entendre avec le dialogue, quand il viendra. Il ne tardera guère.

#### SCÈNE II.

(Monsieur Jourdain, en robe de chambre et en bonnet de nuit ; le maître de musique, le maître à danser, l'élève du maître de musique, une musicienne, deux musiciens, danseurs, deux laquais.)

*Monsieur Jourdain*. Eh bien, messieurs, qu'est-ce ? Me ferez-vous voir votre petite drôlerie ?

*Le maître à danser*. Comment ! quelle petite drôlerie ?

*Monsieur Jourdain*. Hé ! la . . . Comment appelez-vous cela ? Votre prologue ou dialogue de chansons et de danse ?

*Le maître à danser*. Ah, ah !

*Le maître de musique*. Vous nous y voyez préparés.

*Monsieur Jourdain*. Voyons un peu votre affaire.

*Le maître de musique*. Je voudrais bien auparavant vous faire entendre un air (montrant son élève) qu'il vient de composer pour la sérénade que vous m'avez demandée. C'est un de mes écoliers qui a pour ces sortes de choses un talent admirable.

(Third grade, "A la pêche des moules.")

*Monsieur Jourdain*. Cette chanson me semble un peu lugubre ; elle

endort ; et je voudrais que vous la pussiez un peu regaillardir par-ci par-là.

*Le maître de musique.* Il faut, monsieur, que l'air soit accommodé aux paroles.

*Monsieur Jourdain.* On m'en apprend un tout à fait joli, il y a quelque temps. Attendez . . . là . . . Comment est-ce qu'il dit ?

(Third grade, "Il était une bergère" or "Sur le pont d'Avignon.")

*Le maître de musique.* Vous devriez apprendre la musique, monsieur, comme vous faites la danse. Ce sont deux arts qui ont une étroite liaison ensemble.

*Le maître à danser.* Et qui ouvrent l'esprit d'un homme aux belles choses.

*Monsieur Jourdain.* Est-ce que les gens de qualité apprennent aussi la musique ?

*Le maître de musique.* Oui, monsieur.

*Monsieur Jourdain.* Je l'apprendrai donc. Mais je ne sais quel temps je pourrai prendre ; car, outre le maître d'armes qui me montre, j'ai arrêté encore un maître de philosophie, qui doit commencer ce matin.

*Le maître de musique.* La philosophie est quelque chose : mais la musique, monsieur, la musique . . .

*Le maître à danser.* La musique et la danse . . . La musique et la danse, c'est là tout ce qu'il faut.

*Le maître de musique.* Il n'y a rien qui soit si utile dans un État que la musique.

*Le maître à danser.* Il n'y a rien qui soit si nécessaire aux hommes que la danse.

*Le maître de musique.* Sans la musique, un État ne peut subsister.

*Le maître à danser.* Sans la danse, un homme ne saurait rien faire.

*Le maître de musique.* Tout les désordres, toutes les guerres qu'on voit dans le monde n'arrivent que pour n'apprendre pas la musique.

*Le maître à danser.* Tous les malheurs des hommes, tous les revers funestes dont les histoires sont remplies, tout cela n'est venu que faute de savoir danser.

*Monsieur Jourdain.* Comment cela ?

*Le maître de musique.* La guerre ne vient-elle pas d'un manque d'union entre les hommes ?

*Monsieur Jourdain.* Cela est vrai.

*Le maître de musique.* Et si tous les hommes apprenaient la musique, ne serait-ce pas le moyen de s'accorder ensemble, et de voir dans le monde la paix universelle ?

*Monsieur Jourdain.* Vous avez raison.

*Le maître à danser.* Lorsqu'un homme a commis un manquement dans sa conduite, soit aux affaires de sa famille, ou au gouvernement d'un État, ou au commandement d'une armée, ne dit-on pas toujours : Un tel a fait un mauvais pas dans une telle affaire ?

*Monsieur Jourdain.* Oui ; on dit cela.

*Le maître à danser.* Et faire un mauvais pas peut-il procéder d'autre chose que de ne savoir pas danser ?

*Monsieur Jourdain.* Cela est vrai, et vous avez raison tous deux. Est-ce tout ?

(" Le chevalier du Gué.")



## EDITORIAL.

---

### THE UNIVERSITY OF CHICAGO SCHOOL OF EDUCATION.

THE School of Education was generously endowed by Mrs. Emmons Blaine through her interest in educational progress, especially as that was represented by Colonel Francis W. Parker in the old Cook County Normal School. It was her large-minded purpose that he should have an opportunity to carry out the great work that he had undertaken, free from conventional, financial, and political complications. Her foundation, under the direction of Colonel Parker, took form in the Chicago Institute. The building strikes of the years 1900-1901 prevented the erection of a building; and during the spring of 1901 negotiations were carried on which resulted in the incorporation of the Chicago Institute in the University of Chicago, as the professional school of education in the latter. The sad and premature death of Colonel Parker in the spring of 1902 led to a consolidation of the undergraduate work of the Department of Education in the university with that of the School of Education, so that the former head of the Department of Education became the director of the school.

The aim of the school remains the training of teachers—teachers thoroughly interested in educational progress, and competent not only in class-room instruction, but to foster the general spread of whatever is best in elementary education. All training schools for teachers naturally have many of their purposes in common; but past history, traditions, and local circumstances give every institution a stamp of its own. It was inevitable, in the case of a personality as progressive, vigorous, and devoted as that of Colonel Parker, that this impress should be unusually pronounced. The school, as he was accustomed to say, was founded as an exponent of the "new education," devoted to the complete development, physical, mental, and moral, of the child.

The School of Education, in its original form, was concerned with the training of elementary-school teachers; and, so far as the professional work is concerned, only the training upon that side has as yet been organized. Plans are now under way, however, for grouping the college courses which are especially adapted to the needs of secondary-school teachers, and for combining those with such courses in education as will enable the university to undertake the professional training of teachers of that class.

Upon the side of schools for children, affording models of demonstration, laboratories for investigation and verification, and for acquiring the necessary technical command of modes of teaching, the school is already unusually well

equipped. The Chicago Institute brought with it a complete elementary school from the kindergarten through the eighth grade. This serves especially as a school of observation and practice as to the actual technique of class management and instruction. The professional work of those who are in training for elementary-school teachers is closely connected with this practice school. The combination with the Department of Education brought in an elementary school whose especial province is the application of psychological method to problems of the curriculum, and the development of a distinct body of psychological principles which may be put at the disposal of teachers in such a way as to enable them to direct more intelligently their own thinking and practice. The department had also under its charge two secondary schools, representing the essential problems and factors of high-school education. The Chicago Manual Training School is an almost classic example of the claims and functions of manual training and technological work; while the former South Side Academy was a typical example of the academic school conducted along the lines of linguistic and scientific training.

The School of Education thus has at command all the factors which, in their co-operative interaction, are requisite for a complete educational scheme. If anything be needed to complete the chain, it is found in the fact that within the university organization the work of the freshman and sophomore years has been arranged in a distinctive form—that of the Junior College—because it is felt that this work connects quite as closely with secondary-school work as with that of college training proper. It is believed and hoped that with the new buildings the existing gaps and overlappings between secondary and collegiate education may be completely done away with, and the work of the one gradually blend and fuse with that of the other. Taking this work in connection with that of the Senior Colleges, and of the graduate and professional schools, it is thought that the University of Chicago may be able to do something significant and important in the way of providing the working model of an economic and efficient unification of the various parts of the educational system.

The work of the professional students may be classed under three heads: First, they pursue courses in academic lines calculated to increase and strengthen their scholarship; and particularly to put them in command of the intellectual standpoint and method which are absolutely indispensable in genuine culture. It is a commonplace that the functions of elementary education have been seriously impaired by the lack of adequate training in subject-matter on the part of many of its teachers. From this lack, evils at opposite extremes have resulted. On one side, because of the narrow horizon and equipment of the teachers, the material of the curriculum was frequently restricted and hardened into the relatively few and mechanical elements within the teacher's reach. On the other side, teachers who have felt the poverty-stricken and devitalizing character of this material have:

struck out in new directions and introduced a large variety of new materials which have been found to appeal to the interests of the children. But, as the consequences proved, the teachers were often so lacking in scientific and historical knowledge, and in thorough intellectual discipline, as not to be able to control the introduction of these new factors and to secure their proper adjustment to one another. The intimate association of collegiate and professional work seems to be absolutely necessary to secure that variety of material and method, together with system and arrangement, which is necessary to the full and yet orderly growth of child nature. As time goes on, an ever-increasing intimacy of union between college and professional work may reasonably be expected.

In the second place, the professional student discusses and sees tested principles of education. Upon the pedagogical side it is also easy to detect two extreme evils, which it is desirable to avoid. At one extremity there is pedagogical instruction of a purely theoretic nature, ending too often in the acquisition of a glib terminology and of rigid formulæ which modify the language of the would-be teacher, but have little effect in illuminating and interpreting his endeavor. At the other extreme is instruction which puts the teacher in command of an arsenal of immediate practical devices which may be employed in securing attention and hearing recitations in various subjects—devices, however, which are not interpreted to the teacher in terms of their scientific relation to principles of growth. Such devices may at first appear to add to the direct efficiency of the teacher in the schoolroom; but in the long run they reveal their narrowness and lack of scientific basis in failure to promote the growth of intellectual initiative on the part of the teacher, and in failure to co-operate with his own common-sense in dealing with both the unusual and the ordinary problems of the schoolroom. As an assistance in avoiding both of these unfortunate results, the work of the professional students is based upon instruction in psychology, having for its aim, not the acquisition of technical distinctions together with precepts for educating various faculties, but insight into the conditions and modes of healthful growth, and of whatever impedes or arrests that growth. These principles are then tested, both negatively and positively, by the study of children with a view to making the theory concrete and definite through recognition of its particular applications; and the practice is enlightened, enlarged, and liberated through personal appreciation of its animating purposes and scientific base.

In the third place, the professional students work upon subject-matter with reference to its use in secondary and elementary schools. This aspect of their study represents a union of the two previous factors. It depends on some adequate understanding of the subject-matter as that stands in the minds of experts and specialists in a particular branch. Its successful execution requires insight into the general principles of mental growth, and into the particular embodiments of those principles exhibited in individual children

of different ages and temperaments. Consequently, in addition to the academic studies pursued in the colleges, and the studies in psychology and educational principles, there is a considerable group of studies in geography, history, nature study, etc.; where the future teacher studies these topics in the light of the selection and organization of subject-matter which, upon one side, is adequate from the side of scholarly information and training and, upon the other, is adapted to children's needs and powers at a given age.

It is proposed in the pages of this journal to publish from time to time discussions of psychological and social conditions, and processes of growth; and statements, derived from the actual work of both the Laboratory and Elementary Schools, of the way in which these principles find concrete expression in the selection and use of subject-matter with children.

JOHN DEWEY.

#### BOOKS RECEIVED.

---

- The Story in Primary Instruction*: Sixteen Stories and How to Use Them.  
By Samuel B. Allison and H. Avis Perdue. Chicago: A. Flanagan Co.,  
1902. Pp. 162, 12mo; cloth.
- Special Days in School*, with Literary Selections. Compiled by Jean L.  
Gowdy. Minneapolis: School Education Co. Pp. 219, 12mo; cloth.
- Organisation and Administration of University Libraries*. Reprint from  
A. L. A. Proceedings, 1902. By Anderson H. Hopkins. Pp. 7.
- Just So Stories for Little Children*. By Rudyard Kipling. New York:  
Doubleday, Page & Co. Pp. 249, 8vo; cloth.
- Child Culture According to the Laws of Physiological Psychology and  
Mental Suggestion*. By Newton N. Riddle. Child Light Publishing  
Co., 1902. Pp. 129, 12mo; cloth.

## THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

## Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

# SOZODONT

A perfect Dentifrice for the

## Teeth and Mouth

SOZODONT LIQUID . . . 25c  
SOZODONT TOOTH POWDER . . . 25c  
Large LIQUID and POWDER . . . 75c **25¢**

### A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

**HALL & BUCKEL, New York.**

# MENNEN'S



### Delightful After Bathing A Luxury After Shaving

Beautifies and Preserves the Complexion

A positive relief for Chapped Hands, Chafing, and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get Mennen's (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25c.

AVOID HARMFUL IMITATIONS.

(SAMPLE FREE.)

GERHARD MENNEN CO., Newark, N. J.

# TYPHOID

Typhoid now prevalent, can be prevented by the careful boiling of drinking water and the thorough use of a reliable disinfectant. For purifying the waste pipes, closets, sinks, and all waste carrying arrangements; for sprinkling about the cellars, storerooms, etc., Platt's Chlorides has proven a most reliable and economical disinfectant.

# Platt's Chlorides

## the odorless disinfectant.

The daily use of just a little of this powerful liquid ensures pure air in the home, and a bottle will last the average family a month. Sold only in quart bottles by druggists and high-class grocers. Prepared only by HENRY B. PLATT, New York.

**Jaeger**  
PURE WOOL UNDERWEAR

Protects  
Against  
Temperature Changes.

**The Standard Sanitary  
Underwear for Men, Women  
and Children.**

Endorsed by Leading Physicians.

Also various JAEGER Novelties and  
Specialties.

Don't forget that the Best is the Cheap-  
est and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

“REVERSIBLE”  
**“Linene”**  
Collars & Cuffs.



### MANY ADVANTAGES.

Perfect in fit, never ragged or uncomfortable. Very convenient, stylish, economical. Made of fine cloth and exactly resemble linen goods. Turn down collars are reversible and give double service.

### NO LAUNDRY WORK.

When soiled, discard. Ten collars or five pairs of cuffs, 25c. By mail, 30c. Send 6c. in U. S. stamps for sample collar or pair of cuffs. Name size and style.

REVERSIBLE COLLAR CO., Dept. 12, Boston.

### The Most Fashionable Perfume

You will not find it in every store.  
It is not used by everybody.  
Sold at the best stores only.  
Used by refined people only.

EAU DE COLOGNE

**Fohann Maria Farina**

Sternengasse 9-11 in Köln.



Queen Alexandra says:

There is something fascinating about users of 9-11 Cologne. It is certainly the most delicious perfume; it invigorates and refreshes.

INSIST on 9-11 Cologne and TAKE NO OTHER.

Import office, 1-3 Ann Street, New York.

“RIDE A COCK-HORSE TO BANBURY CROSS,  
TO SEE A FINE LADY UPON A WHITE HORSE,  
RINGS ON HER FINGERS, AND BELLS ON HER TOES,  
SHE SHALL HAVE MUSIC WHEREVER SHE GOES.”



SO SINGS THE FOND MOTHER IN NURSERY RHYME  
TO HER GLAD INFANT, THE WHILE KEEPING TIME;  
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN  
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.

THROUGH  
**MRS. WINSLOW'S SOOTHING SYRUP**  
OVER FIFTY YEARS SOLD

TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

# Dr. Deimel Underwear

BEARS A LABEL WITH THIS TRADE MARK



*After eight years of patient and persistent effort, the claims made in behalf of the Dr. Deimel Underwear are universally accepted. This*

## Pioneer Linen Underwear

*has become recognized as the correct wear for the human body, giving at once a sense of freedom and comfort, and affording protection against the agencies which bring on colds, catarrh, rheumatism, and pneumonia.*

For catalogue and samples of the material, address

## The Deimel Linen-Mesh Co.


Department 0.3, - 491 Broadway, New York

Or  
 SAN FRANCISCO WASHINGTON, D.C. BROOKLYN, N.Y. MONTREAL, CAN. LONDON, W.C., ENG.  
 111 Montgomery St. 728 15th St., N.W. 510 Fulton St. 2202 St. Catherine St. Hotel Cecil, 83 Strand

# Air

enclosed in tiny cells  
 of Woven Wool retain-  
 ing the heat of the body

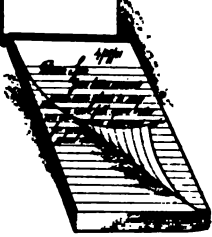
with a luxuriousness of feeling  
 gratifying to the most sensitive  
 skin: That's  
**Wright's  
 Health Underwear**  
 Illustrated Catalogue  
 Sent on request.

Wright's Health Underwear Co.  Wright's Health Underwear 77 Franklin St. New York

TRADE MARK



**Carbon Letter Book**  
 Recommended by  
**A. D. Childs & Co.**  
 Stationery  
 and Office Supplies in Chicago



# Copy Your Letter While You Write

BY USING THE

## CARBON LETTER TAB

*Letter Copying Made Cheaper, Cleaner, and More Convenient*

100 Letters and 100 Copies in Each Book. Bound in Board  
 Covers with Carbon, Ready for Use

**Letter Size** (8 $\frac{1}{2}$  x 11), Ruled or Plain . . . . . **\$0.75**  
**Note Size** (6 x 9 $\frac{1}{4}$ ), Ruled or Plain . . . . . **.50**

*Sent postpaid on receipt of price*

**S. D. CHILDS & CO.**

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

# Insert your letter—turn

the crank—and your copy's made.  
 No wet cloths to handle—no  
 damp blotters to arrange—no  
 screwing down letter-press.

It stands always ready.

The pressure of the copy-  
 ing-rollers is always the  
 same. Never a blurred letter,  
 nor an indistinct copy.

Every copy clean

and perfect—  
 no faint copies  
 to guess at.

Copies made  
 on the RAPID  
 ROLLER LET-

TER COPIER can be  
 filed right with the  
 letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,

Rochester, N. Y.

Branches in N. Y., Phila.,  
 Boston, Chi., San F., and  
 seven other cities.



# FLORIDA

BY THE

## CLYDE LINE

THE ONLY DIRECT ALL-  
 WATER ROUTE BETWEEN  
 NEW YORK, BOSTON

—AND—  
**Charleston, S. C.**  
**Jacksonville, Fla.**

St. Johns River Service between  
 Jacksonville and Sanford, Fla.,  
 and intermediate landings.

The "Clyde Line" is the favorite route be-  
 tween NEW YORK, BOSTON, PHILADEL-  
 PHIA & EASTERN POINTS, and CHARLES-  
 TON, S. C., and JACKSONVILLE, FLA., mak-  
 ing direct connections for all interior points  
 throughout the South and Southwest.

**FAST MODERN STEAMSHIPS**

**FINEST**

**SERVICE**

19 State Street, New York.

WM P. CLYDE & CO., Gen'l Agts.  
 THEO. G. EGER, G. M.

# EDISON SOLID GOLD FOUNTAIN PEN \$1.00



THE EDISON, JR. WIZARD FOUNTAIN PEN is as good a pen as was ever offered to the public at Any Price. It is impossible to make a better Pen. The Pen is guaranteed 14 Karat Solid Gold, fitted in a handsomely chased Para Rubber barrel, and easily outclasses all others as to high-grade workmanship, durability, and price. Money refunded if not as represented. We offer this pen at the very low price of \$1.00 postpaid, and present to each purchaser a package of Mr. Edison's famous Wizard Ink Tablets, in any or assorted colors, which dissolved in water makes one pint of the best Fountain Pen Ink ever produced. This exceptional offer is made to induce everyone to try our ink, knowing that when once used no other can take its place. The U. S. P. O. Dept., as well as the principal Railroads, Banks, and Boards of Education throughout the country have adopted it. Agents wanted. Write for descriptive circular.

THOMAS A. EDISON, JR. CHEMICAL CO., Dept. "P," 35 Stone St., New York.

# SPENCERIAN

The Standard of  
Excellence for  
over forty years

## STEEL PENS



Select a pen for your writing from  
a sample card of special numbers for cor-  
respondence. 12 pens for 10c., postpaid.

**SPENCERIAN PEN CO.**

349 Broadway, NEW YORK CITY

"AFTER ALL **CARTER'S INK** IS THE BEST"



**An Old Bookkeeper is Discriminating**

Better take his advice and use CARTER'S  
Send for booklet "Inklings"—Free  
**THE CARTER'S INK CO. BOSTON, MASS.**

# PERFECTION



**SELF-  
CLEANING  
AND  
FILLING;  
DOES  
NOT  
DROP  
INK.**

FOR SALE AT  
**THE EXCLUSIVE PEN STORE**  
96 STATE STREET, (STEWART BUILDING) CHICAGO  
MABIE, TODD & BARD

THE WORLD'S LEADING

Railroads and

Manufacturers

Use **SMITH PREMIER**  
**TYPEWRITERS**

Because they possess those sterling features that make them the most economical to own. Good work all the time.

The Smith Premier  
Typewriter Co.,  
Syracuse, N. Y.,  
U. S. A.

**Grand Prize,**  
**Paris 1900...**

Highest Award  
Possible....



THE BEST  
SEND FOR CATALOGUE

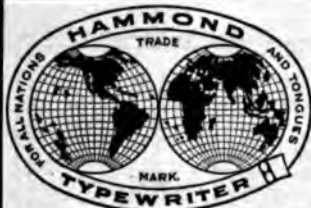
FIFTY  
STYLES

TRADE MARK  
REGISTERED

**PAUL E. WIRT**  
**FOUNTAIN PEN**  
ALL DEALERS OR ADDRESS: BLOOMSBURG, PA.

**W**HY not use a clean Fountain Pen, one that will write and write always, without skipping, blotting, or scratching?

The above Fountain Pen is and has been sold on its merits all over the world for sixteen years, and is unconditionally guaranteed.



THE  
**Leading Typewriter**  
**OF THE WORLD**

The Only **POLYGLOT**—Using a **HUNDRED** Type Shuttles in **TWENTY-SIX** Languages. All immediately interchangeable. Now adds to its Conceded Perfections (Perfect Alignment, Impression, etc.).

Each day has its cares  
*Ἡμερῆς ἡ ὁπρωτὴ ἡρ' ἔτληται*  
Each day has its cares  
*Ἀρκετοὺν τῇ ἡμέρᾳ ἡ κακὰ*  
Each day has its cares

Each day has its cares  
*Bo ymo nevemca o saci*  
*Basta al dia su afan*  
EACH DAY HAS ITS CARES  
*Ein jeber Tag hat seine*

**A CROWNING GLORY**

The Best **MANIFOLDER**, where **QUALITY** and **QUANTITY** are desired



THE  
**HAMMOND**  
**TYPE-**  
**WRITER**  
**COMPANY**

69th to 70th Street, East River  
NEW YORK, N. Y.



"THE NAME IS EVERYTHING."

# Esterbrook

on a pen is an absolute  
guarantee of its excellence

Vertical No. 556 is  
admirably adapted for  
Vertical Writing.  
Over 150 varieties of  
other styles to suit  
every purpose. All  
stationers have them.  
Accept no substitute.



**THE ESTERBROOK STEEL PEN CO.**

Works, Camden, N. J. \* 26 John Street, N. Y.

# Everybody

finds  
the



# Remington Typewriter

**adapted to his work**

Wyckoff, Seamans & Benedict  
REMINGTON TYPEWRITER COMPANY)

327 Broadway, - - New York

A POINT IN THE RIGHT

DIXON'S SM No 2

DIRECTION.

Is our advice to try

## Dixon's American Graphite Pencils.

The satisfaction of using a pencil that always does what is expected of it, sharpens to a fine point, and in which the lead doesn't break, either in sharpening or use, is not one of the least comforts to a busy person.

**Dixon's Leads Don't Break.**

Their grades never vary.  
Pencils for all uses,

each one bearing our trade-mark, the best of its kind.

*If not sold by your dealer, send us  
10c. for samples worth double.*

Joseph Dixon Crucible Co.,  
Jersey City, N. J.



# Densmore Does More



Ask  
About It

**Densmore Typewriter  
Company**

309 Broadway, New York

## A Wonderful Material! PANTASOTE

**Waterproof—Greaseproof—Stainproof**

Also Germproof and FIREPROOF! Unlike other leather substitutes, it contains no cellulose, rubber or other dangerous and objectionable substances, and is also *entirely odorless*.

Pantasote does not peel or crack, is not affected by heat, cold or climate. Looks like Morocco leather, wears better and costs half. Tested nine years with unqualified success. Made in plain leather grains or richly embossed designs, all standard colors.

A Piece  
18 x 18 in.  
for 25 cents  
in stamps.  
Free sample  
15 x 6 in. for  
2c. stamp and  
your upholsterer's address.



**Awarded GOLD MEDAL at Buffalo.**

CAUTION—There are dangerous and worthless imitations; genuine has Pantasote stamped on goods.

PANTASOTE CO., Dept. Z, 11 Broadway, New York

## CROWN PIANOS

*Noble in Tone  
Chaste in Appearance  
Durability Unquestioned*

**GEO. P. BENT**  
Manufacturer Chicago

## Mouse Proof

All our organs have this important feature. They are all

## Mouse Proof



**STYLE 4405.**

We not only make the best possible instrument, but we construct it so that it shall give the best service for the longest time. Style 4405, one of our latest models, is especially desirable for chapel use.

**Mason & Hamlin Co.**

BOSTON.

NEW YORK.

CHICAGO.

**MONON  
TRAINS FOR**  
La Fayette  
W. Baden Spr.  
Fr. Lick Spr.  
Louisville  
Mammoth Cave  
Chattanooga  
New Orleans  
All Southern  
Cities.



**MONON  
TRAINS FOR**  
Indianapolis  
Dayton  
Cincinnati  
Asheville  
Atlanta  
Jacksonville  
St. Augustine  
Tampa  
Havana.

You travel between  
**CHICAGO  
LOUISVILLE  
INDIANAPOLIS  
AND  
CINCINNATI**  
GO VIA

**MONON ROUTE**

AND C.H.&D Rwy.

**LUXURIOUS PARLOR AND DINING  
CARS BY DAY.  
PALACE SLEEPING AND COMPART-  
MENT CARS BY NIGHT.  
6 TRAINS DAILY BETWEEN  
CHICAGO AND THE OHIO RIVER**  
W.H. McDOEL FRANK J. REED GENL. PASS. AGT. CHAS. ROCKWELL  
PRES. & GENL. MGR. CHICAGO. TRAFF. MGR.



# Kayler's



**LICORICE TABLETS,**

(5 & 10¢ PACKAGES.)

**FOR COUGHS & COLDS.**

MADE WITH PURE SPANISH LICORICE.



**GLYCERINE TABLETS,**

(10¢ POCKET TINS.)

FOR RELIEF OF  
HOARSENESS & THROAT AFFECTIONS.



**ITALIAN PEPPS,**

(10¢ ALUMINUM POCKET PACKET.)

A HANDY POCKET STAMP BOX WHEN EMPTY.



**GUM IMPERIALS,**

(10¢ ALUMINUM BOXES.)

ASSORTED PURE FLAVORINGS.

IF NOT SOLD BY YOUR DRUGGIST,  
MAILED FREE UPON RECEIPT OF PRICE.

*Kayler's*

863 BROADWAY, N.Y. CITY.

# LIEBIG

## COMPANY'S

### EXTRACT OF BEEF

STRENGTH FOR THE STRENUOUS



LOOK FOR THIS SIGNATURE:

*J. Liebig*

IN BLUE



## MAN CANNOT IMPROVE NATURE.

Man has not yet succeeded in his attempt to paint the lily or perfume the rose. The white flour miller has, however, attempted to improve upon the Whole Wheat as a food and failed because he has taken a part away from a perfect whole.



# SHREDDED WHOLE WHEAT BISCUIT

is the wheat, the whole wheat, and nothing but the wheat. It is a Naturally Organized Food, that is, contains all the properties in correct proportion necessary to nourish every element of the human body. "Soft cooked" cereals are swallowed with little or no mastication and, therefore, the teeth are robbed of their necessary—NATURAL—exercise, causing weakness and decay. Shredded Whole Wheat Biscuit being crisp, compels vigorous mastication and induces the NATURAL flow of saliva which is necessary for NATURAL digestion. Shredded Whole Wheat Biscuit builds Strong Bodies and Sound Teeth, and makes possible the Natural Condition of Health.

Sold by all grocers. Send for "The Vital Question" Cook Book (free.) Address

**The Natural Food Co., Niagara Falls, N. Y.**



**Cyko A Night Printing Paper.**  
Cyko is the most perfect of all Developing Papers.  
Made in a variety of surfaces and speeds adapted for all classes of negatives.  
**NO DARK ROOM REQUIRED.**  
One dozen 4 x 5 Cyko with developer 20 cents. Send to  
**THE ANTHONY & SCOVILL CO.,**  
122-124 Fifth av., Atlas Block,  
New York. U.S.A. Chicago.

# GOERZ

International  
PRIZE

## Competition

---

### \$1500 in Cash Prizes

or equivalent in GOERZ  
manufactures if preferred

---

FOR PARTICULARS ADDRESS

### G. P. Goerz Optical Works

ROOM 6, 52 E. UNION SQUARE, N.Y.

Main Office, Berlin—FRIEDENAU—GERMANY  
Branches, LONDON—3-6 Holborn Circus  
PARIS—22 Rue de L'Entrepot

**SUFFERERS FROM**  
**DYSPEPSIA AND OTHER**  
**STOMACH TROUBLES**  
Can Find Quick Relief by Using

# Glycozone

an **absolutely harmless** germicide.  
It subdues the inflammation of the  
mucous membrane of the stomach,  
thus removing the cause of the disease,  
and effects a cure.  
For any stomach trouble it will do  
good and generally cure.  
Used and recommended by leading  
physicians.

**Sold by leading druggists.**

**FREE** I will send by mail on receipt of  
20c., to cover **actual postage**, a  
liberal sample, that will prove the claims I  
make to your entire satisfaction. This prepara-  
tion cannot harm you, and in most cases gives  
wonderful results. Address

*Prof. Charles Harchand*  
59 W. Prince St., New York.

# WABASH

## New Short Line

BETWEEN

## CHICAGO AND TOLEDO

---

### THROUGH PULLMAN SERVICE

---

### FREE RECLINING CHAIR CARS

---

## ALL WABASH TRAINS

---

**C. S. CRANE** **F. A. PALMER**  
G. P. & T. AGENT A. G. P. AGENT  
ST. LOUIS CHICAGO

\$3000.00  
1770

Rochester, N.Y. Aug. 1 1902

**Bausch & Lomb Lenses and Shutters**

SOLD ROUND THE WORLD

*Pay to The Best Photographers in the World  
Three Thousand & No Dollars*

**NOTICE!** The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Prisma, Pecca and other hand cameras with B. & L. Lenses being provided.

*Bausch & Lomb Optical Co*

ROCHESTER, N.Y.

Who will send full information on request.



**THE  
ALTON'S  
1903  
FENCING  
GIRL**

Copyright, 1903  
by C. & A. R'y.

**ART CALENDAR**  
Four graceful poses from life; figures ten inches high, reproduced in colors. Highest example of lithographic art.

**"THE ONLY WAY"**  
to own one of these beautiful calendars is to send twenty-five cents, with name of publication in which you read this advertisement, to GEO. J. CHARLTON, General Passenger Agent, Chicago & Alton Railway, 328 Monadnock Building, CHICAGO, ILL.  
The best railway line between CHICAGO, ST. LOUIS, KANSAS CITY and PEORIA.



## ORCHESTRA

Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, Illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.

The World's Largest Music House. Sells "Everything Known in Music."

## PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent instrument at \$200, fully equal to many \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

## LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



## Rare Old Violins

Largest and finest collection on this continent. Fine catalogue free, containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.





COPYRIGHT 1906 BY THE PROCTER & GAMBLE CO., CINCINNATI

**T**HOSE WHO HAVE TRIED IVORY SOAP FOR REMOVING SPOTS FROM CLOTHING SAY THAT THERE IS NO SPECIALLY PREPARED CLEANING COMPOUND THAT EQUALS IT. IVORY SOAP CAN NOT INJURE ANY FABRIC THAT WATER ALONE DOES NOT HARM.

99<sup>44</sup>/<sub>100</sub> Per Cent. Pure.

# **BUFFALO LITHIA WATER** In All Forms of Bright's Disease, Albuminuria of Pregnancy, Uric Acid Diathesis, Gout, Rheumatism, Lithaemia, Renal Calculi, and Stone of the Bladder, Etc., Etc.

**Dr. George Ben Johnston, Richmond, Va., ex-President Medical Society of Virginia and Professor of Gynecology and Abdominal Surgery, Medical College of Virginia**  
"IF I WERE ASKED WHAT MINERAL WATER HAS THE WIDEST RANGE OF USEFULNESS, I WOULD UNHESITATINGLY ANSWER BUFFALO LITHIA. It is a most valuable remedy in many obscure and stubborn conditions which, at best, yield slowly, if at all, to drugs. In URIC ACID DIATHESIS, GOUT, RHEUMATISM, LITHAEMIA, and the like, its beneficial effects are prompt and lasting.

"Almost any case of Pyelitis and Cystitis will be alleviated by it and many cured.

"I have had evidence of the undoubted DISINTEGRATING, SOLVENT, and ELIMINATING POWERS of this water IN RENAL CALCULUS, and have known its long continued use to permanently break up the gravel-forming habit.

"It is an agent of great value in the treatment of the Albuminuria of Pregnancy, and is an excellent diuretic in Scarlatina and Typhoid Fever. In all forms of BRIGHT'S DISEASE except those hopelessly advanced, its good effects are pronounced. I believe it has been the means of prolonging many lives in this trouble."

**John V. Shoemaker, M.D., LL.D., Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc., in the New York Medical Journal June 22, 1899:** "The **BUFFALO LITHIA WATER** is DOUBLY EFFICIENT in Rheumatism and Gout. It dissolves Uric Acid and Phosphatic sediments, as well as other product difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the Kidneys and Bladder. The intense suffering produced by Stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination. Unquestionably, although the speedy removal of Uric Acid and other products of faulty tissue change is of conspicuous benefit, yet to PREVENT their formation is a service still more important. This service is performed by the **BUFFALO LITHIA WATER** when it corrects those digestive failures which are responsible for the production of deleterious materials."

**James L. Cabell, M.D., A.M., LL.D., Formerly Professor of Physiology and Surgery in the Medical Department of the University of Virginia, and President of the National Board of Health, says:** "**BUFFALO LITHIA WATER** in Uric Acid Diathesis is a well-known therapeutic resource. It should be recognized by the profession as an article of Materia Medica."

**Dr. J. W. Mallet, Professor of Chemistry, University of Virginia.** (Extract from report of analysis of Calculi discharged by patients under the action of **BUFFALO LITHIA WATER** Spring No. 2):

"It seems on the whole probable that the action of the water is PRIMARILY and MAINLY upon URIC ACID and the URATES, but when these constituents occur along with and a cementing matter to Phosphatic or Oxalic Calculus materials, the latter may be so detached and broken down as to disintegrate the Calculus as a whole in these cases, also thus admitting of Urethral discharge."

Spring No. 1 is both a NERVE and a BLOOD TONIC, and in PALE, FEEBLE, and ANAEMIC SUBJECTS is to be preferred. In the absence of these symptoms No. 2 is to be preferred.

**BUFFALO LITHIA WATER** is for sale by Grocers and Druggists generally.

Testimonials which defy all imputation or questions sent to any address.

**PROPRIETOR - BUFFALO LITHIA SPRINGS - VIRGINIA**

# Baker's Cocoa — and — CHOCOLATE



TRADE-MARK

have held the market  
for 122 years with con-  
stantly increasing sales

- (1) because they are pure and of  
high grade; (2) because they yield  
the most and best for the money;  
(3) because they are unequaled  
for smoothness, delicacy, and flavor

Our trade-mark is on every package of  
the genuine goods

## Walter Baker & Co.

Limited

Dorchester, Massachusetts  
40 Highest Awards in Europe & America

# WEBER PIANOS

Admired and endorsed by Great Ar-  
tists and the Musical Public for half  
a century; exclusively used by the

Maurice Grau Opera Co.

The Mascagni Opera Co.

and by

Kocian and Julie Geyer

on their 1902-3 transcontinental tours

### THE WEBER PIANO COMPANY

108 FIFTH AVENUE, NEW YORK  
266 WABASH AVENUE, CHICAGO

THE outer skin constantly sheds itself in minute epidermal scales. These minute scales, unless cast off, clog the pores so that they are unable to throw off the impurities. The new skin which is constantly forming is fair and transparent, and will permit the egress of impurities that arise from the blood or from retarded digestion, if the desquamation of the epidermis is prompt and frequent enough—HAND SAPOLIO aids it

# HAND SAPOLIO

Does what soap cannot do, by a method of its own. If you want a velvet skin, don't PUT ON preparations, but TAKE OFF the dead skin, and let the new, perfect cuticle furnish its own beauty. An exemplification of the luxury of cleanliness. Imparts vigor and life sensation. Energizes the whole body, bringing a glow and exhilaration

A PURE ARTICLE  
FREE FROM ANIMAL FATS

PIANOS have been established over 60 YEARS. By our system of payments every family in moderate circumstances can own a VOSE piano. We take old instruments in exchange and deliver the new piano in your home free of expense.

VOLUME III

NUMBER 4

# The Elementary School Teacher



DECEMBER, 1902

Chicago: *The University of Chicago Press*

Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1902, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second-class matter, July 15, 1901

As Pears' Soap dissolves
Beauty evolves



Pears' Soap

Matchless for the Complexion

The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

CONTENTS FOR DECEMBER, 1902

| | |
|---|-----|
| LITERATURE IN THE ELEMENTARY SCHOOL. III - PORTER LANDER MACCLINTOCK | 205 |
| HORTICULTURE IN THE SCHOOL. II - - - - - DAVID FELMLEY | 214 |
| SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS. I | |
| KATHERINE E. DOPP | 219 |
| GEOGRAPHY. II - - - - - ZONIA BABER | 228 |
| KINDERGARTEN OUTLINE FOR OCTOBER, NOVEMBER, AND DECEMBER | |
| ANNE ELIZABETH ALLEN | 235 |
| GRADE OUTLINES: | |
| FIRST GRADE - - - - - BERTHA PAYNE | 240 |
| SECOND GRADE - - - - - CLARA ISABEL MITCHELL | 243 |
| THIRD GRADE - - - - - GUDRUN THORNE-THOMSEN | 245 |
| FOURTH AND FIFTH GRADES - - - - - GERTRUDE VAN HOSEN | 249 |
| SIXTH GRADE - - - - - MARY REED | 251 |
| SEVENTH GRADE - - - - - ELSIE AMY WYGANT | 252 |
| EIGHTH GRADE - - - - - KATHERINE M. STILWELL | 256 |
| AN EXPERIMENT IN SELF-GOVERNMENT - - - AN EIGHTH GRADE CLASS | 261 |
| FRENCH - - - - - LORLEY A. ASHLEMAN | 264 |
| BOOK REVIEW: | |
| Conklin: American Political History to the Death of Lincoln, IDA M. PAHLMAN - - | 270 |
| EDITORIAL - - - - - | 271 |

The subscription price of the **ELEMENTARY SCHOOL TEACHER** is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The **ELEMENTARY SCHOOL TEACHER** appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the **ELEMENTARY SCHOOL TEACHER**, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

THE UNIVERSITY OF CHICAGO PRESS,
CHICAGO, ILLINOIS

APPLICATION MADE FOR ENTRY AS SECOND-CLASS MAIL MATTER
COPYRIGHTED, 1902, BY THE UNIVERSITY OF CHICAGO.

The Biblical World

THREE MONTHS' TRIAL OFFER

Twofold Proposition:

A beautiful
Photo-Engraving
of the Garden
of Gethsemane

Sent with *Three
Months' Trial
Subscription* to
the Biblical World

— **25 CENTS** —

THE BIBLICAL WORLD is a monthly magazine devoted to the interests of students of the Bible and is an indispensable aid to clergymen, Sunday-school teachers, and Y. M. C. A. conductors. As a special inducement to interest new readers in the BIBLICAL WORLD, the publishers offer to send prepaid as a premium a photo-engraving 11 x 9 inches of the Garden of Gethsemane suitable for framing. This offer is made for a limited time only and should be accepted at once. The picture will be sent to present subscribers free of charge

1902

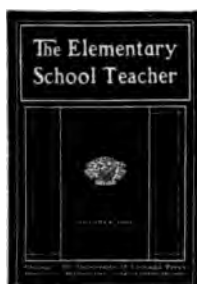
The
University of
Chicago Press.
Gentlemen:

Inclosed find
25 cents, for which
please enter my sub-
scription for the Biblical
World for three months, and
send at the same time the photo-
engraving of the Garden of
Gethsemane.

Name _____
Address _____ State _____

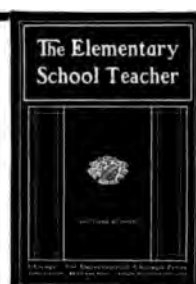
The University of Chicago Press

5752 Ellis Avenue, CHICAGO



THE ELEMENTARY SCHOOL TEACHER

(Formerly Published by the Chicago Institute)

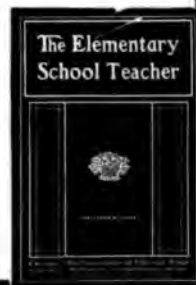
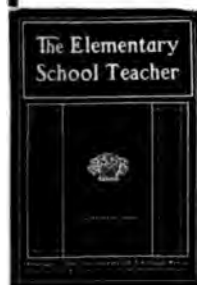


Preliminary Review of Volume III and Announcements for 1903



IN the various occupations of life and in all lines of work where definite plans are pursued and fixed policies maintained, it is well to pause for a time, and with the aims and purposes well in mind inspect the results of the past.

The Elementary School Teacher was founded in July, 1900, by the late COL. FRANCIS W. PARKER, under the title of **The Course of Study**, and its avowed purpose was "to present, in theory and practice, a full exposition of the work of the Chicago Institute in the academic and pedagogic schools."



The scope of the magazine has been enlarged—the title changed first to **The Elementary School Teacher and Course of Study**, and later to **The Elementary School Teacher**—but throughout the process of changing and broadening the purposes of the founder have been kept in mind, and carried nearer a satisfactory conclusion.

Among the contributions for the first four numbers of Volume III may be mentioned an article on "*Horticulture in the School*," by PRESIDENT DAVID FELMLY, of the Illinois State Normal University; "*Some Steps in the Evolution of Social Occupations*," by KATHERINE E. DOPP; "*English in Elementary Schools*," by C. H. LEWIS, of Lewis Institute; "*Literature in the Elementary School*," by PORTER LANDER MACCLINTOCK, of the University of Chicago; "*The Grammar School*," by FRANK A. MANNY, Superintendent Ethical Culture Schools, New York city; "*The School as Social Center*," by JOHN DEWEY, Director of the University of Chicago School of Education; and many other subjects of interest to the elementary teacher.

Announcements for January



AMONG the regular features of the January number there will be an article on "*The Kindergarten*," by PRINCIPAL ALICE C. DEWEY, Educational Laboratory, University of Chicago.

The admirable discussions by SUPERINTENDENT GILBERT on "*How and Why We Learn*" will be continued.

MISS DOPP's article, "*Some Steps in the Evolution of Social Occupations*," which will be continued, will have special significance to those acquainted with her new book, "*The Place of Industries in Elementary Education*."

PRESIDENT FELMLY's article on "*Horticulture in the Elementary School*" will be continued.

There will be articles by the heads of departments in the School of Education; MISS RICE, MR. DUNCAN, DEAN JACKMAN, and others.

A Glimpse into the Future



THE ELEMENTARY SCHOOL TEACHER, under the able direction of MRS. ELLA F. YOUNG, the managing editor, takes pleasure in announcing that later in the year there will be presentations of the results in the Laboratory School by MISS KATHERINE CAMP, MISS LAURA L. RUNYON, MRS. MAY ROOT KERN, and MISS LILLIAN S. CUSHMAN. There will also be articles by MISS LAURA J. WYLIE, Head of the Department of English, Vassar College, and MISS GERTRUDE BUCK, of Vassar. There will be contributions from the following well-known educators as announced in the October circular:

PRESIDENT CHARLES C. VAN LIEW, California State Normal School

SUPERINTENDENT EDWIN G. COOLEY, Chicago

SUPERINTENDENT CHARLES M. JORDAN, Minneapolis

SUPERINTENDENT JAMES H. VAN SICKLE, Baltimore

PROFESSOR CHARLES A. BENNETT, Manual Training Department, Bradley Institute

PROFESSOR JOHN M. COULTER, Department of Botany, The University of Chicago

PROFESSOR SAMUEL T. DUTTON, Teachers' College, Columbia University

PRINCIPAL FRANK M. MCMURRY, Spyre Experimental School, Columbia University

The Elementary School Teacher

Edited by The University of Chicago School of Education, John Dewey, Director. Is published monthly (except July and August). Subscription Price, \$1.50 a year.

THE UNIVERSITY OF CHICAGO PRESS, CHICAGO, ILLINOIS

The Christmas Century

THE Christmas number of The Century Magazine is such a splendid, all around Holiday issue that one could take a great amount of space in detailing the contents,—more than you would read. Here, however, are

Three Important features

(Only three out of many)

(1) "The High-Water Mark of Color Reproduction"

HOWARD PYLE'S superb paintings, illustrating "The Travels of the Soul." This is what Mr. Pyle wrote to The Century Co. when he saw the proofs:

"I wish to express to you my great and sincere admiration for the way in which you have reproduced my pictures. I had never hoped to have such really great results. . . . It appears to me that if you print the magazine at all like the proofs, you will have reached the high-water mark of color reproduction. Very sincerely yours,

(Signed) HOWARD PYLE."

And there are other color-pictures in the number, with beautiful illustrations in black and white.

(2) First Chapters of a New Story by the Author of "Mrs. Wiggs of the Cabbage Patch"

For seven consecutive months one of the six most popular books in the United States has been "Mrs. Wiggs,"—and with reason, for it is a book that does the reader good,—you go and get half a dozen copies and send them to your friends. "Lovey Mary," Miss Hegan's new story, has all the charm of "Mrs. Wiggs," and that lady herself is one of the characters. It begins in this number and will continue for four months.

(3) A Most Enlightening Article on The United States Steel Corporation

Not by way of attack or defense, but just a fair, truthful account of how and why this great so-called Trust was organized, and how it carries on its business. Written by Henry Loomis Nelson, and one of an important series which THE CENTURY is printing on the different so-called Trusts.

These three features alone are enough to sell the Christmas Century.

New Subscribers who begin their yearly subscription with this Christmas number will receive the November number free of charge, and so begin the volume and ALL THE SERIALS. Price \$4.00.

The Century Co., Union Square, New York



By Molly Elliott Seawell

Francezka

A ROMANCE OF YOUTH,
SPLENDOR and TRAGEDY

By the author of "The Sprightly Romance of Marsac," etc.

The Most Beautiful of the Autumn Novels

Illustrated by Harrison Fisher

Bound in green and white and gold. Price, \$1.50, postpaid.



The Loom of Life

By Charles Frederic Goss
Author of "The Redemption of David Corson."

"Mr. Goss' splendid powers have been demonstrated afresh. This book alone is strong enough, big enough, important enough, enough suggestive and informing, to make a reputation for any one."

"He has already a large audience created by his earlier book, 'The Redemption of David Corson.' The new book will at once find favorable and eager readers."

—*The Living Church*.

Price, \$1.50, postpaid.

The Long Straight Road

By George Horton
Author of "Like Another Helen."

"Not a long way after Balzac, with all that Frenchman's capacity for 'catching the manners living as they rise.' It may be said in all truthfulness that we have now an American 'Comedie Humaine,' root, branch, and stalk thoroughly American, and as thoroughly typical of a certain phase of our life and living as are Balzac's delineations of French life and manners."—*Los Angeles Express*. Illustrated. Price, \$1.50, postpaid.

There is one Great Book for Children this year



By L. Frank Baum
Author of
"The Wonderful Wizard of Oz"

"The Master Key"
"Father Goose"

This charming idea of a life of Santa Claus will make an instant appeal to every child, and the story is so delightfully told that the book is sure to become a children's classic. With many full-page pictures in colors by MARY COWLES CLARK, and a gayly illuminated cover. Cloth bound. Price, \$1.00, net. If mailed, add 18c. for postage.

THE BOWEN-MERRILL COMPANY, Publishers, Indianapolis, U. S. A.

THE THREE MOST IMPORTANT HOLIDAY BOOKS OF THIS SEASON

JAMES WHITCOMB RILEY'S



"The Mississippi Bubble," Drawing by Hott.

Miss Gilder, editor of "The Critic," says: "The Mississippi Bubble" by Emerson Hough, is one of the best novels that has come out of America in many a day." With seven illustrations, including above in color. Price, \$1.50 postpaid.

AT ALL BOOKSTORES.



AN OLD SWEETHEART OF MINE
ILLUSTRATED BY HOWARD CHANDLER CHRISTY

James Whitcomb Riley's masterpiece, and the most sumptuous gift-book published this year. Illustrations by Howard Chandler Christy in two colors. Price, \$2, postpaid.

THE BOWEN-MERRILL COMPANY, Publishers, Indianapolis, U. S. A.



HEARTS
COURAGEOUS
BY
MISS RIVES

Cover design of "Hearts Courageous."

Miss Rives' latest triumph "Hearts Courageous," a romance of the Declaration of Independence, is "a love story as delicious as the great passion itself." Illustrations by Wenzell. Price, \$1.50, postpaid.

Catalogues of New & Second-hand Books

At very LOW prices issued monthly and mailed
FREE on application

COATS OF ARMS of prominent American families
Plain and in colors Send for list

PAUL DuCHAILLU'S THE VIKING AGE

Two handsome volumes 8vo, cloth, gilt, 1181 pages.
Published by Scribner, N. Y., at \$7.50 (*New*).
Net, \$2.75

The early history, manners and customs of the ancestors of the English-speaking nations, illustrated from the antiquities discovered in mounds, cairns, and bogs, as well as from the ancient sagas and eddas, with map and 1,366 illustrations.

KATHERINE SCHUYLER BAXTER'S A GOD CHILD OF WASHINGTON: A PICTURE OF THE PAST

Illustrated with 150 portraits and views, photogravures of rare originals, 4to, cloth, gilt, 651 pages, N. Y., 1897. Publisher's price \$10.00 (*New*). Net, \$4.00

Great events, fine old manor houses scattered through New York and other colonial states, as well as their renowned owners and their friends, valuable old letters and rare portraits relating to the Revolutionary War and the War of 1812, never before reproduced, go to make up the attractions of the book to the present reader and its value to the future historian.

SCHARF'S HISTORY OF THE CONFEDERATE STATES NAVY

Large 8vo, cloth, 884 pages, 73 illustrations, Albany, 1894. Price reduced from \$3.50 to Net, \$1.50

From the laying of its first keel to the sinking of its last vessel; its struggle with the United States navy; the engagements in the rivers and harbors of the South and upon the high seas; blockade running; first use of ironclads, etc.

SIR C. WYVILLE THOMPSON'S VOYAGE OF THE "CHALLENGER"

Two volumes large 8vo, cloth. Published by Harpers, N. Y., at \$12.00 (*New*). Net, \$3.00

The Atlantic; a preliminary account of the general results of the exploring voyage during the years 1873 and the early part of 1876; with many colored maps, charts and illustrations.

SENATOR JOHN SHERMAN'S RECOLLECTIONS

Two volumes royal 8vo, cloth, gilt, 1274 pages, Chicago, 1895. Published price \$7.50 (*New*). Net, \$2.00. THE SAME in full library sheep. Published at \$10.00. Net, \$2.50. ALSO half morocco, full gilt. Published at \$12.00. Net, \$3.00

Forty years in the House, Senate, and Cabinet. Illustrated with photo portraits, views, fac-similes, letters, and with an analytical index.

JOSEPH McDONOUGH, Jr. Olde Booke Man
Established 1870 39 & 41 Columbia Street, Albany, N. Y.

BARNES' LATEST BOOKS

Contains more than one hundred illustrations in color and black-and-white from original sketches by the author. In this book we see through the eyes of a trained artist some of the fairest spots on the face of the globe. Includes part of the East Indies, the Philippines, Japan, and a journey home through Manchuria, and Siberia in flower-time. The book is full of sunshine, humor, and an artist's delight in the beautiful countries visited.

Two on Their Travels

By

Mrs. Archibald R. Colquhoun

8vo. Beautifully Illustrated. \$2.50 net

This book reveals places and things unknown to people of leisure, travellers, and even newspaper correspondents. It is unique because it represents Morocco the Real, the Oriental, the Esoteric. It is a romance with the true spirit of adventure.

Hidden Manna

A Romance of Morocco. By A. J. Dawson

Author of "African Nights Entertainments," etc. 12mo. \$1.50

An exquisite study of nature, with a touching love story intertwined. A beautiful holiday gift. . . . "The author has that tender, almost feminine touch with his characters that marks the exquisite grace and refinement of James Lane Allen."—*Minneapolis Times*.

THE LOVE STORY OF ABNER STONE

By Edwin Carlile Litsey

8vo. \$1.20 net (postpaid \$1.29)

A notable characteristic of "Home Thoughts" is that they appeal to everyone. They are particularly valuable as gift-books. "The product of keen observation, tender sympathy, and dexterous literary composition."

HOME THOUGHTS

First and Second Series

By "C" (Mrs. James Farley Cox)

The set, 2 vols.: \$2.40 net; half calf, \$6.00 net

A. S. BARNES & CO., 156 Fifth Avenue, New York

**BOOKSELLERS
STATIONERS**

**A. C. McCLURG
& COMPANY**

**Standard
Miscellaneous
Illustrated and
Fine Bound
Gift Books
Wedding and
Reception
Invitations and
Visiting Cards
Engraved**

**A.C.McCLURG & CO.
215-221 Wabash Av., CHICAGO**

**PUBLISHERS
IMPORTERS**

NEW--Just What You Need for Best Results

MORSE'S EDUCATIONAL SYSTEM and the NATURAL MOVEMENT METHOD of Practical Writing

THE MORSE COMPANY

96 Fifth Ave., New York.

Boston: 8 Beacon St. Chicago: 195 Wabash Ave.

Thoroughly unique in character.
with many original, valuable
features.

The right slant for best results.
Round letters and round turns.
Elimination of all unnecessary
lines. Legibility and Rapidity.
Correlated copy material,
carefully graded and illustrated.
System and method combined.

20 to 28 Adjustable Copy Slips
in back of each book for elemen-
tary work, giving more than
double the copy material of other
books. Eight-book series.

Price, per dozen, 72 cents
Liberal discount for introduction.

For Use in Secondary Schools

History

| | |
|---|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England | 1.25 |
| Botsford—History of Greece | 1.10 |
| Botsford—History of Rome | 1.10 |
| Adams—Medieval and Modern History | 1.10 |
| Adams—Growth of French Nation | 1.25 |
| Adams—European History | 1.40 |

Science

| | |
|---------------------------------------|------|
| Bailey—Elementary Botany | 1.10 |
| Davenport—Introduction to Zoölogy | 1.10 |
| Crew—Elements of Physics | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography | 1.40 |
| Tarr—Elementary Geology | 1.40 |

Mathematics

| | |
|---|------|
| Fisher & Schwatt—Secondary Algebra | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond | .90 |
| Holgate—Elementary Geometry | 1.10 |

English

| | |
|--|------|
| Carpenter—Rhetoric, First High-School Course | .60 |
| Carpenter—Rhetoric, Second High School Course | .50 |
| Lewis—Introduction to the Study of Literature | 1.00 |
| Carpenter—Principles of English Grammar | .75 |
| Pocket English and American Classics (34 volumes
ready), each | .25 |

The Macmillan Company
378-388 WABASH AVE., CHICAGO
New York Boston Atlanta San Francisco

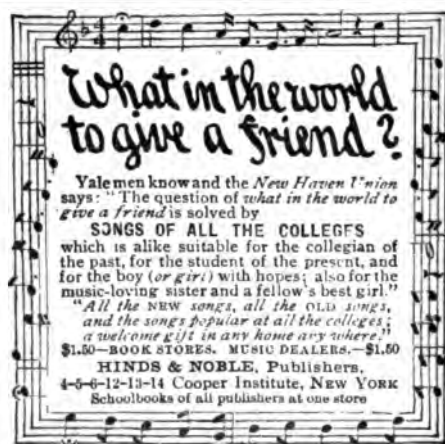
The University of Chicago Press

Special printing facilities for academic work,
including theses and reports of educational
bodies and learned societies.

Educational and scientific works printed in
English, German, French, Latin, Greek,
Hebrew, and other languages.

Estimates furnished

The University of Chicago Press
58TH ST. AND ELLIS AVE., CHICAGO



**What in the world
to give a friend?**

Yale men know and the *New Haven Union*
says: "The question of *what in the world to
give a friend* is solved by

SONGS OF ALL THE COLLEGES
which is alike suitable for the collegian of
the past, for the student of the present, and
for the boy (or girl) with hopes; also for the
music-loving sister and a fellow's best girl."

"All the new songs, all the old songs,
and the songs popular at all the colleges;
a welcome gift in any home anywhere."

\$1.50—BOOK STORES, MUSIC DEALERS.—\$1.60
HINDS & NOBLE, Publishers,
4-6-12-13-14 Cooper Institute, New York
Schoolbooks of all publishers at one store

R. R. Donnelley & Sons Co.

The Lakeside Press

PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECU-
TION, PRIVATE EDITIONS, COLLEGE CATALOGUES, AND ANNUALS A
SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES
WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELEC-
TRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY.
THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.





THOMAS B. REED
Editor-in-Chief

Modern Eloquence

THE publication of *Modern Eloquence* (ten handsome library volumes) is an event of premier importance. For the first time the best After-dinner Speeches, Lectures, Addresses, Anecdotes, Reminiscences, and Repartee of America's and England's most brilliant men have been selected, edited, arranged, by an editorial board of men—themselves eloquent with word and pen—who have achieved eminence in varied fields of activity.

These gems of spoken thought were fugitive from lack of proper preservative means until the Hon. Thomas B. Reed, upon voluntarily retiring from the Speakership of the House of Representatives, gathered about him these men of mark and experience in literature, his friends and co-workers in other fields, and began the task of preparing this great work. North, East, South, and West, and the Mother Country as well, have been searched for gems in every field of eloquence.

Here was a lecture that had wrought upon the very souls of great audiences; there an after-dinner speech, which "between the lines" was freighted with the destinies of nations. Here was an eulogy expressing in few but virile words the love, the honor, and the tears of millions, and there an address pregnant with the fruits of a strenuous life's work. Or, perchance, a reminiscence, keen, scintillant repartee, or a story potent in significance and aflame with human interest. Matter there was in abundance, for English-speaking peoples are eloquent, but *the best—only the great, the brilliant, the worthy to endure*, has been the guiding rule of Mr. Reed and his colleagues. Their editorial labors have been immense.

Whatever the viewpoint, this work is without precedent. It has no predecessor, no competitor. Speeches that have been flashed across continents, lectures that have been repeated over and over again to never-tiring audiences (but never published), addresses that have made famous the man, the time and the place—these are brought together for the first time, and with them a large number of the wittiest sayings of the wittiest men of the nineteenth century.

For an hour—for a whole evening in the easy chair at home—for the study of style and diction that have electrified brilliant assemblies—for the man ambitious to become a successful or popular public speaker, and for the one who has to prepare a toast or an address—this work is a never-failing source of charm and inspiration. Nor is this solely "a man's work." "The tenderest tribute to woman I have ever read," said Senator Dolliver when he read the manuscript of Joseph Choate's after-dinner speech—"The Pilgrim Mothers."

MODERN ELOQUENCE is sumptuously published in 10 octavo volumes, but moderately priced. To properly present this electric library, Portfolios comprising Table of Contents, fine photogravures, chromatic plates, sample pages, and other interesting material have been prepared. One of these portfolios with full particulars regarding bindings, prices, terms, etc., will be mailed on application.

JOHN D. MORRIS & CO.,
Publishers, Philadelphia

A
Fine
Portfolio
Posted Free.

**John D.
Morris & Co.**
PHILADELPHIA

Gentlemen: Referring to your advertisement of Hon. Thos. B. Reed's library of *Modern Eloquence*—I shall be pleased to receive portfolio of sample pages, photogravures, and chromatic plates; also full particulars regarding bindings, prices, etc.

Name.....

Mail Address.....

Dining Cars Service à la Carte

ROSES are always on the tables,
and delicate china, glass and
silver add to the pleasure of a dinner
well cooked and daintily served

All the Season's Delicacies
at Very Moderate Prices

**Burlington
Route**

OUR 8,000 miles of rail-
road reach out from
Chicago, Peoria and
St. Louis to all the important
cities in the west and north-
west such as

**ST. PAUL
MINNEAPOLIS
OMAHA
KANSAS CITY
DENVER**

If you are going to any of
these places or to the Pacific
coast, kindly let me send you
time tables and other informa-
tion about our train service.

P. S. EUSTIS,
Gen'l Pass. Agt., C. B. & Q. R. R.,
CHICAGO, ILL.

THE LIVING AGE

AS IT ENTERS UPON ITS

SIXTIETH YEAR AND 236TH QUARTERLY VOLUME

still maintains the high standard of literary excellence which has characterized it from the beginning. It presents in an inexpensive form, considering its great amount of matter, with freshness, owing to its weekly issue, and with a **satisfactory completeness** equalled by no other publication, the best **Essays, Reviews, Criticisms, Serial and Short Stories, Sketches of Travel and Discovery, Poetry, Scientific, Biographical, Historical, and Political Information**, from the vast field of Foreign Periodical Literature.

The following list includes some of the writers represented in a single year's numbers of **THE LIVING AGE**

Algernon Charles Swinburne, Sir Gilbert Parker, A. T. Quiller-Couch, The Bishop of Ripon, Augustine Birrell, Mrs. Alice Meynell, W. B. Yeats, Andrew Lang, Katharine Tynan, Maxwell Gray, Sidney Lee, Herbert Paul, Sir Edwin Arnold, Edmund Gosse, George Meredith, Fiona Macleod, Maurice Maeterlinck, Hilaire Belloc, Sir Wemyss Reid, John Buchan, Sir Rowland Blennerhassett, Eugene Melchior de Vogue, Leslie Stephen, Lord Rosebery, Paul Bourget, W. L. Courtney, Professor Edward Dowden, Henry Lawson, Arthur Christopher Benson, Max Beerbohm, Jane H. Findlater, Owen Seaman, W. E. Henley, The Hon. H. H. Asquith, Pierre de Coubertin, William Watson, W. S. Lilly, Maxine Gorky, G. M. Trevelyan, Sir Lewis Morris, John Morley, Emily Lawless, Theophile Gautier, Prince Kropotkin.

PUBLISHED EVERY SATURDAY

And giving about 8,300 Pages a Year of the Best Literature. Popular yet of Permanent Value.

Subscription Price, \$6.00 a Year. Single Number, 15 Cents

THE LIVING AGE COMPANY

P. O. Box 5206

13½ BROMFIELD STREET, BOSTON

**Absolutely
FREE**

A large

**OCTAVO
VOLUME**

OF

824 Pages

To all NEW
Subscribers to
**THE LIVING
AGE** for the
year 1908 there
will be sent
FREE, until
the edition is
exhausted,
**THIRTEEN
WEEKLY
ISSUES** for the
three months,
October,
November and
December.

If
You
Want
To
Be
Sure
You
Are
Right
USE

AN IDEAL CHRISTMAS PRESENT

Useful. Reliable. Attractive.
Various Styles of Binding.

The New Edition has 25,000 new words. 2364 pages. 5000 illustrations.
LET US SEND YOU FREE
"A Test in Pronunciation" which affords a pleasant and instructive evening's entertainment.

Illustrated pamphlet also free.
G. & C. Merriam Co., Pubs.,
Springfield, Mass.



WEBSTER'S

INTERNATIONAL DICTIONARY

Notable Books

- Language Through Nature, Literature and Art. PERDUE and GRISWOLD. (For primary grades.).... 35c
- Eskimo Stories. SMITH. (For primary grades.)..... 40c
- The Sunbonnet Babies' Primer. GROVER. (For primary grades.)... 40c
- Viking Tales. HALL. (For third and fourth grades.)..... 40c
- A Child's Garden of Verses. STEVENSON. (For primary grades.) 50c
- Wings and Stings. DAULTON. (For third and fourth grades.)....
- Hand-Loom Weaving. TODD. (A teacher's manual.)..... 90c
- The Cricket on the Hearth. DICKENS-AITON. (Canterbury Classic.) (For grammar grades).. 30c

May we send you circulars of our many new books?

Rand, McNally & Company
Chicago New York London

AROUND THE CAPITAL

Worcester, Mass. Oct. 20, 1902. \$5.75
The Central National Bank
Pay to the order of Mr. F. E. Grant
Five and 75/100 Dollars

Geo F. Grant
M.C.

contains more facts and faces (all of the Members of Congress and others) than any other book yet published. It is the busy man's book. Although being current history in condensed form, it is constructed on the theory that it is far better to laugh than to weep; and the author, realizing that information coming in a pleasant guise is ways lasting and beneficial, believes its mission to amuse will be doubly enhanced by its power to instruct.

For Sale by All Booksellers or
mailed, postpaid, to any part of the world on receipt of price. Cloth, \$2.00; Half Morocco, \$3.00; Full Morocco, \$5.00.

THE NUTSHELL
PUB. CO.,
DEPT. 6,
78 Fifth Avenue,
New York.

When calling please ask to see Mr. Grant

BOOKS

AT LIBERAL DISCOUNT

BEFORE BUYING BOOKS
WRITE FOR QUOTATIONS

An assortment of catalogues and special slips of Books at reduced prices sent for 10-cent stamp

TO THE READER

Please remember that whenever you need a Book, or any information about Books, if you will address me I will try to please you by attention and low prices. Write me of your wants, or call and inspect stock, and in either case I will make you special prices.

F. E. GRANT
23 W. 42d Street New York

Mention this advertisement and receive a discount



**THE
PRUDENTIAL
HAS THE
STRENGTH OF
GIBRALTAR**

WISE MEN FROM THE EAST

Brought Valuable Gifts to Express
their Devotion. Wise Men of To-day Regard

LIFE INSURANCE

in

THE PRUDENTIAL

As one of the Most Valuable Gifts
they can Bestow on their Families.

THE PRUDENTIAL INSURANCE CO. OF AMERICA

John F. Dryden,
President.

Write for Information,
Dept. 25

Home Office,
Newark, N. J.

THE ELEMENTARY SCHOOL TEACHER

DECEMBER, 1902

LITERATURE IN THE ELEMENTARY SCHOOL.

III.

THE PRESENTATION OF THE MATERIAL AND THE IMMEDIATE RETURN.

IN this day of reaction, one might almost say revulsion, against "methods" in teaching, it is with much misgiving that one brings himself to speak of the practical details of the presentation of his subject, lest he fall under the suspicion of setting forth a "method." We can not be too glad of our emancipation from mechanical devices, personal contrivances, small esoteric schemes, in favor of the original creative work of the teacher, based upon expert knowledge of his subject, and confidence in its educational efficacy. The protest against artificial methods should not, however, blind us to the fact that each body of teaching material, taken together with the conditions under which it is to be presented, suggests—nay, imposes—many of the steps to be taken in the handling of it. These steps have a philosophical basis; they are demanded by the nature and organization of the subject-matter; they are the inevitable and inseparable expression of the teacher's knowledge and point of view; they are the necessary avenues of communication between him and his children. It is such details that we desire to discuss in this paper—to which may be added certain minor records of experience, given merely for what they are worth.

The thing most important after the bit of literature has been chosen is that it should be given to the child in a good and artistic form. If it is an old story, whose original form is such

as not to be available for the child, then the teacher must choose another form artistic and beautiful, or make his own rendering of it artistic and beautiful. He more than defeats his purpose who transmits to his children, no matter how good a story, in slipshod sentences, commonplace phrasing, go-easy enunciation, or worse than that, in the ostentatiously child-like language and manner which constitutes official kindergartenesse, or worst of all, in that tone of cheap irony that so many people seem to feel appropriate in communing with the child. It is the tone of the average adult when he enters into conversation with anybody under twelve—an underbred or quite uncalled-for tone of badinage, of dislocation, of insincerity. It is this cheap irony that quite disqualified Thackeray for writing for children—it taints every word of *The Rose and the Ring*. It lingers in Kingsley, and has to be edited out of *The Water Babies*, as one reads that book to a child. It is an unpardonable misunderstanding of the dignity and seriousness of childhood to offer it babble, when it asks only simplicity, or to treat flippantly what to it are the serious things of art.

The teacher who has to do with children so small that he must tell the story to them should so thoroughly know and love his story, should so respect his material and his audience that a good and beautiful literary form flows from him naturally and inevitably. Failing of this, let him find or write out an acceptable and dignified form of it, and memorize it. There is no denying that in the hands of a cold and mechanical person this form will be poisoned by priggishness and false propriety. It will lack spontaneity and warmth. But the artistic danger from it, even so, will be less than from the haphazard, common-place version such a person would give impromptu. Just as soon as the child is old enough to be read to, and this is very early if the teacher knows how to read, the material should be presented in the original best form, from the book. The Perrault fairy tales, for example, are perfect in their quaint eighteenth century setting; there is a version of the Robin Hood tales, sound to the last syllable; there is a translation of the *Odyssey*, whose every line is golden. These things the teacher should give to his children

just as they are. Of course, as he reads these he is obliged to edit out a passage now and then, for one reason or another. There are certain *longueurs* in the Robin Hood that one may well spare the small audiences; certain passages in the Odyssey are too mature, or deal with topics too advanced for the child's experience; one can not read the otherwise lovely story of *The Ugly Duckling* without suppressing Andersen's cynical egoism.

So far as concerns this small body of writing that we are using to teach literature, it should be read to the child, not read by him, practically throughout the elementary period. Not within that period does the child reach the stage of reading needful in the interpretation of literature. He masters the difficulties of mechanical reading; he may achieve the plane of intelligent reading, but he does not rise to the next plane—that of appreciative reading, well-nigh the highest achievement of the human mind. In the presentation of poetry it is indispensable that the teacher read or recite it to the child. Only when we have become most experienced readers can we get a hint of the movement and music of the verse by its look upon the printed page. The child, of course, sees nothing of this, and involved in the difficulties of his inexpert reading and depending upon his own weak and unpractised voice, he misses the essentially literary things in his poem. In the story, too, the child reading for himself misses seeing the words for the trees. He is obliged to go too slowly to catch the movement of the story, to differentiate its parts and to carry its thread of continuity above the details.

Let no teacher suppose that it is a light and easy thing to to read a bit of literature to the children. First, he must know it and love it; let him not read anything he cannot love and respect. Then he must render it to them as a work of art. He must give it to them as a whole thing, carrying the thread of unity clear and strong through all the details. He must delicately indicate the parts, unobtrusively marking the close of a scene, an incident, a movement, a change of mood; he must give the tone and color that belong to his piece; he must observe the lights and shadows; he must distribute the

emphasis, lightening the telling detail and subduing the accessories; he must radiate—always radiate both light and heat, and all these things are as essential, if his audience be seven years old and his masterpiece be *Cinderella*, as they would be were the one *King Lear* and the other college seniors.

That teacher is wise who keeps his literature lessons from all entangling alliances with reading lessons. It is quite another thing to say that children's reading books should have some literature in them, from saying that their literature lessons should be reading lessons. Of course, just as it is the business of every teacher in the elementary school—yes, and in the secondary school—aye, and in college—to teach language, so it is his business to teach reading when it comes in the way. And if it comes about that a child is to read a bit—a poem, his own composition or what not—it must be seen to that it is done as well as possible. But let the lessons in literature never concern themselves with drill in reading.

The nature of the bit of literature chosen must guide the teacher in the first presentation of it to his class. When the movement is rapid and the interest in the action or the plot intense, it may be best to go rapidly through the whole, not pausing for any details. Then go over it slowly again, pausing for discussion and appreciation of details. In other bits this deliberate and more intensive reading may naturally be the first reading. There may well be several readings of anything worth reading once. Indeed, the mistake most often made in children's reading is that of giving them too many things. They are content to go many times over the same thing, and it may justly be said to be the fault of the teacher if they do not derive some new profit from each re-reading of every good piece of literature.

Now it is impossible to indicate in more than a general way the details and smaller points over which a teacher would linger with his children, or to explain precisely what one may mean by "lingering." It may be a picture:

" The cattle are grazing,
Their heads never raising.
There are forty feeding like one."

It may be a brief image: "Burly dozing bumble-bee," or "A sweet pie of tender brown larks;" a bit of tone-color:

"The lights begin to twinkle from the rocks,
The long day wanes, the slow moon climbs;"

a picturesque or archaic word: "The golden orange *glows*;" or "He strung the bow right *defily*;" or a figure of speech:

"The daffodil
Unties her yellow bonnet
Beneath the village door;"

a specially pregnant or pivotal sentence: "Now, Cinderella's godmother was a fairy," or "Cyclops, you asked my noble name, and I will tell it. My name is Noman;" some small complete curve of the action of the story, as Nausicaa with her maids washing her beautiful clothes by the river-side. These must serve as examples. Over such details the class would naturally pause to discuss, to appreciate, to visualize, or otherwise thoroughly to appropriate. It would be a mistake to pause over every such detail, or to stop to make sure that the children apprehend intellectually every item as it appears. The teacher may trust much to the spirit of the masterpiece to illuminate and interpret the details, and still more to the repetitions, which should be many,

Children are none the better listeners for being held in suspense as to the issue of a long story. It seems wise to relieve the strain upon their feelings early by telling them the outcome, or confirming their guesses at it. Suspense and surprise are after all rather cheap artistic devices, stimulants that the unjaded interest of the child on the one hand, and the trained attention of the critic on the other, do not need. It is well to substitute for them as early as possible the purer and deeper pleasure of recognition.

There should be discussion of the persons and motives, feelings and objects handled in the literature. This discussion needs a wise and steady teacher as a guide. Discussion of character in these classes as in older ones, easily degenerates into mere gossip, pernicious attributing of motives and idle

chatter. It devolves upon the teacher to hold the discussion up, to keep it noble. Every teacher knows how one petty or commonplace child can drag a class discussion into the very dust by a single suggestion. This he must guard against and counteract instantly. It deepens the meaning of the piece of literature for the child if the discussion of the characters, the motives, the issues, is made as practical and as human as possible. These discussions should lead the child always to feel that this thing he has been hearing is life; that it rises out of actual human experience, and should turn immediately into human experience again. Let him match the daring deed in the story with one from actual life; the generous motive with another as generous; let him transfer his scorn of the villain's treachery or the coward's weakness to some situation he has to face. By any, by all means, the child should be brought to see that this art but rises out of life, and only hovers above it in a finer and purer atmosphere.

To this end, as well as to serve other purposes, it is well to help the children to transfer into literature some details of their actual life, some objects with which they are familiar. There is material for days of study in such a group of objects as this (these objects were the material of an actual experiment): a gold coin, a brass button, a cluster of daffodils, an orange, a lemon, a bunch of carrots. The process of study and discussion is not difficult by which the plainer fruits and vegetables may be so apprehended in their own good qualities and so adorned with those of their beautiful associates as to be elevated to the plane of art, and be seen ever after as things of beauty. Then there is the opportunity for choice among the color words for learning the value of *glow* and *gleam* and *shine* and *glitter*, the teaching of a fine old proverb, and many other radiating things, all literary.

But the teacher who has once grasped the principle that it is from life that literature gets its truth, its seriousness, its weight, and that it must turn back upon life something of its charm, its joy, and its freedom, will find his own means for enforcing it and illustrating it.

It seems only safe to limit the discussion to the immediate return that the teacher may expect from the little child. The immediate return is all that we can really observe, and all that we can speak of with any certainty. The teacher of art, music, painting, or literature, is altogether too likely to disquiet himself or to resort to unwise methods of forcing the child in order that he may himself see, or may display to expectant friends, results in the child that would have legitimately ripened after years or months. *Art is long.* Like the human being it had a long infancy, being destined to a long and vicissitudinous life. In each individual, also, every art must germinate slowly. We must wait years for the bloom—a lifetime, if need be, for the fruit. We simply cast our bread upon the waters, or as they now have it, sow our rice upon the flooded fields, trusting that many of the grains will find soil and take root. This attitude of mind we must preserve toward many of the most desired results of the teaching of literature. But it is only a matter of pedagogical morality to ask from them some immediate return for what they are given. The simplest of these returns is that of the poem memorized. Many, perhaps all, songs and ballads taught to them as literature, should be implanted in their memories. Many repetitions of the little poem will easily fix it in the child's memory without tediousness, and "without tears," and every child will delight to repeat it with such taste and style as his teacher can guide him into. The stories, too, the smaller children may repeat, provided only the teacher see to it that they are given in good form. A careless or trivial retelling of the story is most demoralizing from the artistic point of view. There are reasons why this repetition of the story should always be impromptu and lightly done. All deliberate paraphrases and mere reproductions of what has been given him are bad for the student at any stage of his study. If one is teaching literature as an art at all, he should emphasize, whenever possible, the inviolability, the psychic necessity, of the form it originally took. But it is quite another matter that the teacher should ask for work from his child, inspired or suggested by what he has been learning. When the child is in thorough imaginative sympathy with

his material, when he has imbibed the spirit, caught the tone, accumulated the vocabulary, had a vision of the relations and associations, then he is ready to produce, not to reproduce. His teacher need have little fear of imitation. Of course, in matters of form his work will be largely imitative. Is it not so on the formal side of all his work? But the spirit in the normal child is original and creative. His new adventure of Odysseus has in it the same *trieb* that produced the old ones. And when he is but a little older this same *trieb* will forge for itself a new and original form. As a mere practical matter the teacher will soon discover that some of the younger children who have mastered the mechanics of writing may safely be required to write out their own productions, while many of the older ones, together with most of the younger, must be allowed to dictate their matter—otherwise in the fullness of their hearts they stumble over their own feet, as it were, and get nowhere; and the genuine flow of literary creation is dammed and dissipated by the mere embarrassment of the pot-hooks and hangers.

It is a shame that it is sometimes necessary to correct the grammar and spelling of these literary productions. As a mere matter of social duty it is probably well for the teacher to do this for an occasional essay, and call the child's attention to the corrections. But as a rule it has a better literary effect if the most egregious mistakes are silently eliminated, and the little theme given back to the child to be read in its improved form. Every child profits immensely if allowed to compose an occasional essay in the teacher's presence, under his criticism. He is helped most easily in this way toward the larger matters of organization, and it is possible in this as in no other way to repress the too fanciful or illogical child, and to set going the unimaginative and coldly logical one. For similar reasons the class composition is so extremely helpful. The criticism and suggestion of their contemporaries and coequals is most effectual, and a group of children which has achieved anything like homogeneity of spirit forms its own best critics and stimuli. The group-tale, the group-drama, or the group-ballad forms a most interesting contribution to the study of literary evolution. The dramatization

of anything that lends itself to that process is a kind of production that most teachers avail themselves of. The mere pantomime dramatization of the smallest children—the “infant” plays that they base upon their stories—are in the right direction. The danger that besets little people’s dramatizations, as apparently that of their elders, is that it ceases to be literature, so that what is not inexplicable dumb-show must be set down as noise. Nothing is more difficult than the problem of giving the children’s dramatic dialogue a tone better than mere commonplace, or different from mere bombast. And as they generally choose the most thundering issues and situations to dramatize, it is always wisest to lean toward the bombast, as being both more spontaneous and more literary.

On the scale of things elementary, and setting the matter in the best perspective attainable, it would seem that four half-hours a week of this more narrowly literary training would be sufficient. It will amount to considerably more than this as it asserts its natural affinities and receives its due share of attention in the modeling, in making of pictures, in music, in reading lessons, in specific lessons in writing, and in the lessons in language other than the vernacular.

HORTICULTURE IN THE SCHOOL.

II.

THE purposes of the school garden are especially to develop an interest in flowers, to afford practical instruction in caring for them, to serve as an example and stimulus for the home gardens of the pupils, and to diffuse knowledge of the laws and processes of vegetable growth. There lies in the background the thought of a better agriculture brought to pass through this agency, and the richer individual life that finds delight in the appreciation of natural beauty.

To secure the best results all features of the garden must contribute to these ends. There must be system and harmony in the position and arrangement of the garden with reference to the surroundings of the school. It is impossible to lay down many rules of universal application. So much depends upon the available space, the position of the shade trees, the slope of the land. There must be a playground for the children upon which not even a school garden should encroach. We have rejoiced in the recent revival of interest in tree-planting about school premises ; yet it is possible to plant too many trees ; to plant them too near the building, or to spoil the effect by wrong location. The school premises should resemble a picture, the building near the center surrounded by open spaces bordered by trees and banks of shrubbery, or tall flowering plants. With the exception of the row lining the street in front, most of the trees should be grouped in the remoter portions of the grounds. In irregular masses about the border, care being taken to keep the taller in the rear, may be planted, lilacs and forsythias, syringas, spiræas, weigelias, and japonicas, flowering almonds, althea, hydrangea, and deutzia, and flowering currants. A few scattering shrubs will not suffice. They should be planted close enough to produce mass effects. A portion of the outskirts of the grounds should be set apart for hardy border plants, perennials that once

established will hold their own with little attention. Peonies, dicentras, aquilegias, phloxes, lilies, irises, and coreopsis, hollyhocks, and rudbeckia will maintain a succession of bloom all summer long about the empty school house. The greater part of the garden must be devoted to annuals and experimental beds. Yet even these should be arranged with reference to general effect as viewed from the front. Strong growers with rank foliage, cannas, sunflowers, castor beans, must stand well to the margin. Tall spikes of flowers upon comparatively naked stems like the amaranth and gladiolus may stand well in the foreground. Generally more pleasing effects are secured by massing each variety, rather than by scattering them among different species,

In beginning a school garden most of the planting must be done in the spring, yet there is much to do in the fall. The plan should be carefully worked out, the sod broken up, and the ground partially prepared for the spring planting. Seeds may be gathered or ordered early from some reliable seedsman. After the garden is once established the gathering and labeling of seeds will receive conspicuous attention.

A few bulbs, crocuses, tulips, hyacinths, should be planted for early spring flowering. The ground should be thoroughly pulverized to a good depth. The bulbs may be planted at any time before November 15. September plantings usually yield best results. The teacher should secure a few four-inch pots and instruct the pupils in the mode of preparing hyacinths and narcissi for winter flowering. Unless the school house boasts of a cellar which does not freeze, it will be necessary to take these to the homes of the pupils for development.

In the fall, too, many seeds should be planted — peach pits to be budded in the following September, apple seeds to produce stocks for grafting, and especially nuts and acorns, whether it is desired merely to study their mode of germination, or to grow trees. These trees with long tap-roots do not bear transplanting well. In many parts of the middle west, nut trees are growing scarce. Walnuts, butternuts and shell-bark hickories should be planted abundantly along roadsides, whenever the soil is suitable. As far north as the forty-first parallel in rich soils the pecan is pre-

eminently the tree to plant ; it is a vigorous grower, clean-limbed, symmetrical, and beautiful ; and at the present prices of the nuts no field or orchard crop can yield a better return for the ground it occupies. If nuts of northern growth are planted, the trees will yield abundantly and the crop will mature.

In the fall months the teacher will start a window garden in pots and window boxes in the south windows of her schoolroom, not so much as an end in itself as a means of instructing the children in the care of their own houseplants. The lessons should deal with such questions as these: the proper admixture of loam and sand or leaf-mold for different species ; the use of broken brick or fragments of pottery to insure proper drainage ; how often and how freely plants should be watered ; the various modes of repotting plants of different ages ; the varying amount of sunlight required by different plants ; showering or bathing plants to free them from the dust of the schoolroom ; how to destroy the red spiders, the green lice, the scales and mealy bug, that infest houseplants ; how to propagate petunias, geraniums, salvias, and coleuses by cuttings. The varieties chosen for the schoolroom must depend upon the exposure, the mode of heating the building, and to some extent upon the age of the pupils instructed. In rural schools it will be necessary to carry them all to the homes of the pupils by the end of November. The dust and extremes of temperature that usually prevail in city schools suggest that even for them only vigorous and hardy species be selected. Geraniums, salvias, lantanas, ageratum, and heliotrope grow freely and bloom abundantly with any sort of treatment. A large pot of double white petunias will fill the air with fragrance. These are all readily propagated by cuttings. A Chinese primrose may be bought of the florist. Bulbs of the pink oxalis may be started at almost any season and will bloom profusely. A basket of asparagus sprengerei should hang before the window. Kenilworth ivy may be substituted at a north window. Begonias and sword ferns may be kept in rooms where direct sunlight never enters.

In March the teacher may place in the south or east windows a few shallow starting boxes for annuals. Asters, calliopsis,

petunias, phloxes, zinnias, and salvias, will be ready for transplanting to the school garden or to the private gardens of the pupils early in May. The inexperienced teacher must be prepared for failure in this work. Poor seed, wrong temperature, too much or too little water, earth worms that devour the young seedlings, the "damps" that may cause a flourishing plantation to vanish in a few hours, are only part of the difficulties that vex the soul of the amateur florist.

At this time, when the warming sunshine develops every latent interest in plant life, the pupils should make an experimental study of germination to discover the conditions of light, heat, and moisture most favorable to different plants. Our recent text-books in botany describe experiments of this character, as well as numerous simple devices for illustrating the effects of drainage, the value of a dust mulch in retaining soil moisture, the importance of soluble nitrates to the growing plant. There is no rural school so unhappily conditioned as to render all of this work impracticable. Nothing else is so potent in awakening an interest in scientific agriculture, for nothing else so clearly reveals man's power to alter and control the vital conditions of plant development.

Early in April, or as soon as the ground is dry enough, spring work in the school garden may begin. The border of shrubs and hardy perennials must be planted before the buds start. Sweet peas are planted, soon to be followed by nasturtiums, and after May 1, by poppies, escholtzia, balsams, marigolds, amaranths, verbenas, portulacca, sweet alyssum, and other annuals. Pupils will bring in from the woods anemones, spring beauties, blue bells, painted cup, trilliums, violets, and spiderwort. When in full flower is not the best time to transplant; yet these may be kept alive with some care, if enough soil is carried with the roots. In rural and village schools it is not best to give much space in the school garden to ordinary field crops and garden vegetables. A few radishes may be sown to show the effect of topping the leaves upon root development. Peanuts, cotton, okra, mimosas, and other unfamiliar plants of peculiar habits of growth or high commercial importance may properly find a space.

Children may be instructed in the care of tools and in the operations of transplanting, hoeing, and weeding; they may be shown the conditions under which a clay soil may be properly worked and the need of maintaining a soil mulch during dry weather. If the space is ample it is well to charge each pupil with the care of some portion of the garden under the direction of the teacher; but he should not plant as he pleases, nor assert exclusive property in the plot assigned, nor lose his sense of joint ownership in the whole garden. In the home garden there will be opportunity for spontaneity.

The unskilled teacher in search of information will derive great benefit from the study of the seed catalogues of our leading florists. The writer has always found florists a very pleasant class of men to cultivate. They are invariably men of superior intelligence, so devoted to their profession that they are willing to make no small sacrifice of time and means in the promotion of any enterprise that promises to foster the love of flowers. The best books which the writer has read are: *Flowers*, by Eben Rexford (published by Penn Publishing Co.), 50 cents. *The Nursery Book*, L. H. Bailey (The Macmillan Co.), \$1.00. *Garden Making*, L. H. Bailey (The Macmillan Co.), \$1.00.

DAVID FELMLEY.

ILLINOIS STATE NORMAL UNIVERSITY.

SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS.

PRINCIPLES OF SELECTION.

No IDEA has attracted greater attention in the educational world during the last ten years than that of motor activity. Several influences have conspired to this end. Modern research in psychological laboratories, improved methods of child-study, the development of the scientific method, and the revolution in industrial processes, all have united in focusing attention upon this question. No subject appears more frequently on educational programs, or calls forth a more vigorous discussion. Already there is a considerable literature bearing upon this subject.

Nor does the interest aroused in motor activity expend itself merely in a consideration of the more theoretical aspects of the subject. Educational theories are being brought to a practical test in elementary schools and in laboratories associated with the educational departments of our great universities. A marked change is noticeable in the attitude of teachers in the public schools. Everywhere there is manifest a lively interest in some phase of the subject.

If the child were merely a mechanism, the manner of setting up the activity would be comparatively unimportant. The main point would be to secure the activity. But the child is much more than a mechanism. Mind and body are most intimately related. Heart, head, and hand have a place in each educative act.

Exercises in motor activity, then, to be educative in the highest sense, must be something more than motor activities. They must be a phase of experience which calls into play the entire organism. In their outcome they must represent something of real social value. The use of practical activity as a means of affording the child an all-round experience in the processes of society is justified by the experience of every household as well

as by that of every race. The idea finds support also in the latest results of the research of the physician, the psychologist, the educational philosopher, and the sociologist.

The elementary school is thus preëminently an experience stage. Even when the child does not come under the influence of the school at this time, he spontaneously enlarges and reconstructs his experience. It is the function of the school to facilitate this process. The school should establish such conditions as to enable the child to escape many of the blunders of mankind, and to direct his energies in such a way as to acquire, in a few short years, an experience that represents, as far as he is able to experience, the highest achievements of his race.

What, then, are the experiences that shall furnish materials for enriching the spontaneous activities of the child? What test shall be applied in the selection of such materials? The claims of the individual require that the activities selected should be such as to secure an all-round development. The claims of society require that they should in their outcome, at least, represent something of social value. The individual test is found in the attitudes of the child and in his power of muscular control. The social test is found in the significance of the activity with reference to the society in which he lives.

In applying the individual test it is essential that the use of the generalized results of the study of the stages of development be supplemented by an accurate knowledge of the particular child. This knowledge should include such information as the parents and the physician can furnish, as well as that obtained by careful observation of the child at play, and by such tests of the senses and the power of muscular control as are made by specialists in child study. When these steps have been taken, when a reasonably fair knowledge of the attitudes of the child and his possibilities in the way of control is attained, the subject matter should be examined in order to discover whether it can furnish materials suited to the child's attitudes, and whether the most essential activities involved in the experiences that it embodies represent a technique over which the child may be expected to gain control.

In applying the social test the subject-matter is viewed from another point of view. It is examined now with reference to its social significance. At this time it is necessary to recognize not merely the universal needs which characterise mankind, but those needs which are due to differences in race, in language, and in social origin.

If such tests are applied to a sufficient variety of racial experiences to correspond to the variety in the dawning attitudes of the child, a course of study can be constructed that will satisfy the demands of the individual for an all-round development, and of society for varied service. But if the principle of balance is lost sight of, if instead of making use of this plastic period for grafting a great variety of social habits upon the inherited instincts and impulses, the time is devoted to the mastery of only a few activities, development will be arrested. It is important that attention be given to securing not merely suitable activities, but a suitable variety. The acquisition of special skill and the formulation of intellectual truth may well be postponed until the child shows some evidence of a muscular control and an intellectual interest that will warrant such a direction of his efforts as will secure those results.

Were the principle not violated so frequently, it would seem to be unnecessary to call attention to the demand of the child for the completion of a situation. The child is more of a philosopher than he is usually given credit for being. His philosophy is none the less philosophy because it has not been translated into intellectual terms. The simplicity of the child's philosophy corresponds to the simplicity of the situations of which he is able to take cognizance, and the simplicity of the processes over which he can exercise control. As long as his problems are simple and direct, his spontaneous activities should be developed by the use of racial experiences of a similar type. At this time there is little danger of violating the principle that demands completeness. But when the child is able to conceive of the product of his activity as separate from the process, when he is able to order his activities with reference to more indirect and complicated modes of securing the result, the situation

becomes more complex. The danger arises when *fragments of experience* are used as the subject-matter, the child being compelled to occupy his time with partial activities instead of being given the opportunity to complete the entire circuit.

Until the child has had sufficient first-hand experience to enable him to interpret its symbols, he should be given the opportunity to participate in the whole round of activities which includes the methods of procuring the raw materials, the processes of manufacturing the same, and the modes of distribution and exchange involved in bringing the product to the person who consumes it.

Genuine simplicity is never opposed to comprehensiveness. Methods which attempt to simplify by the use of isolated fragments of experience defeat their own purpose. Such methods have arisen from a partial knowledge of the child, and from misconceptions that arise from the use of technical terms under circumstances which demand their translation into more popular language.

Tested by the requirements of the individual claim, all modern industrial processes with the exception of agriculture and domestic service, which are belated forms and still remain in a comparatively simple state, must be denied admittance into the course of study until the child is able to interpret the symbols of experience. Modern industrial processes are too complex for the child to control. They represent a technique entirely beyond his power to appreciate unless he can approach it from its more simple forms. They make demands for an impersonal, non-invidious interest which is one of the highest products of our civilization. In the case of agriculture and domestic service the situation is different. There is much in the modern processes of both which may be used to advantage throughout the entire period.

Viewed in the light of the social claim, modern industries are most significant. They represent the vital forces by means of which all social institutions are preserved. Nothing can be more significant to the individual who is able to control their processes than the industries that characterize the present age.

Their place in our educational institutions is only beginning to be realized. That they occupy so small a place in the education of the child is due to conditions inherent in the situation.

Agriculture and domestic service, although of great value, do not cover the entire field. There is need of supplementing these processes by the introduction of other varieties of industry. Certain phases of modern complicated processes are sufficiently simple for the child to master, but since they fail to meet the demand of the child for completeness, they should not be introduced until a time when the conditions are such that they supply a genuine need.

It is possible to select from the experiences of contemporary peoples activities which correspond to the successive stages in the development of the child. Tested by the individual claim, such materials fail only in respect to this: they are more apt to represent static than dynamic conceptions. Almost inevitably the study of such activities becomes a consideration of processes now in vogue, rather than of ways of inventing new methods. Yet if such materials should meet the requirements imposed by the remaining tests, it might be possible to overcome this difficulty.

It is when the social test is applied, that such materials are seen in their true place. In so far as the experiences selected from the life of modern savage and barbarous peoples represent universal experiences of mankind, they are of value. In so far as they represent that which is significant, chiefly on account of conditions peculiar to the development of a given people, they should be accepted only when they have a significance in relation to the evolution of the social institutions that characterize the society to whose service the school is devoted.

When the main lines in the development of one's own institutions are well understood, a comparison of some of their features with those of the institutions of other people may be valuable, but until such a basis is laid, it is not to the modern savage that we must look for experiences suitable to enrich those of the child of today. Such experiences do not embody the traditions of our people. They do not pave the way to an

understanding of civilized processes. They present savagery and barbarism at their very worst, for in many cases they represent an arrested development.

Judged by all of the claims here presented, no materials seem so well entitled to a place in the course of study for the early grades of the elementary school as those which represent the traditions of our forefathers. The records of the early Aryan peoples are meager, but the results of modern research have enabled us to mark out the main lines. A generalized view of the early progress of the race, which it is thus possible to present, is more significant for educational purposes than a more detailed account would be. It serves to accentuate the significant steps in the upward movement of the race, and to leave unnoticed a multitude of experiences of which the child has no need.

In early childhood, typical experiences of Aryan peoples, selected with reference to their value as affording an insight into more complicated processes in the line of our own development, and arranged with reference to a careful gradation in the technique of the processes represented, can best satisfy both the individual and the social claims. They meet the demand for both variety and completeness. When they have fulfilled their purpose, they should give way to that which can give good evidence of its right to the place.

The early experiences of our forefathers are of inestimable value. They reveal the method of human life. They embody great achievements of our race. They show the real kinship of national types. A discovery of the fact that the different nationalities that are united in this country under one government, sprang originally from the same parent stock, and lived together for thousands of years, is of value with reference to one of our most pressing social problems. The assimilation of the great number of foreigners that come to make their homes with us each year, presents a problem that can be solved only when we cease to regard them as foreigners. Until such misconceptions are corrected, we cannot be a united people.

We need the light of our early traditions. No people stands

in so great a need of this as our own. It is to the public school that we must look to supply this need. The child, in his earliest years, can be taught those fundamental truths which will enable him to see our nation in a proper perspective. The conception of a common origin can be so used in the school as to develop in the child a greater respect for his neighbor, who is different in some respects from himself, and a greater sense of social obligations than is now apparent. The experiences of other races may not be excluded altogether from the course of study, but they should by no means occupy the most prominent place.

The conception that manual training means work with tools, is largely responsible for the present situation in primary grades. The recognition of the fact that the period of the *tool* is preceded by that of the *hand*, and that the child needs numerous opportunities to come into direct contact with raw materials without the intervention of tools, will remove one cause of the present difficulty. The introduction of tool work by means of well-graded steps in keeping with the development of the child's power of muscular control, finds support in the race parallel. Such a careful gradation is essential alike to a normal growth of the child, and to a well-graded curriculum.

When the curriculum is viewed merely as a means of enabling the child to acquire a more valuable experience than he could gain if left to his own resources, it assumes its proper place. In itself, it has no life, no unity. The principle that gives it unity is found, on the one hand, in the *life of the individual* to whose service it is devoted, and on the other, in the *life of the race* whose experience it embodies.

In the primary grades the child's interests are only beginning to differentiate. No necessity is felt for a distinct recognition of the elements that are there. Different phases of the same subject-matter afford the child ample opportunity to acquire all the history, the science, and the art that he is able to appreciate at the time. It is only when he begins to reconstruct his experience with reference to satisfying the claims of some interest that is beginning to stand out from the rest, that it becomes necessary to arrange the subject-matter with reference to this

need. At this time it is desirable to *review* past experiences with reference to forming distinct sequences which shall correspond to the separation that is beginning to be made in the child's interests. These sequences, which comprise phases of the child's personal experience, enriched and clarified by the use of the experience of the race, may be still further enriched and extended by the addition of other steps that are new to the child.

The attention that the child gives to the formation of these sequences, is confined more strictly to the method of advance than it was when he was concerned with the more generalized view. It corresponds more closely to the scientific attitude of mind. Sequences thus formed are invaluable as a means of enabling the child of intermediate and grammar grades to maintain organic relations between manual training in its broadest sense, and the most fundamental steps in the evolution of the sciences and the arts. Their relation to history, the racial experience which the child has already incorporated as a part of his own, is evident; for that is the source from which the sequences have been derived.

The series of articles of which this is the first, will be devoted to supplying teachers with much needed materials which have not yet been rendered available for general use. The attention of teachers is, therefore, invited not to theoretical questions, nor to a detailed treatment adapted to the use of the child, but to the formation of sequences which represent the most essential steps in the evolution of the processes which supply our most permanent needs.

The grouping of these sequences about the needs of food, clothing, and shelter, conforms to the division that is made in the practical activities of the school. It is hoped that these materials will prove to be of value to teachers of domestic science, the textile arts, and manual training, as well as to teachers whose interest is in the more general work of the school. Many of the processes presented are so simple as to be readily incorporated into the work of schools that have no special equipment for manual work.

In connection with the food process, such activities as are represented in the evolution of the methods of obtaining, of preparing, of serving, of carrying, of preserving, and of storing food, will be explained and illustrated. Processes involved in the evolution of cooking utensils, fireplaces, chimneys, ovens, and mills for crushing and grinding food, will also be treated.

It will be necessary, at times, in determining the place of a given activity, to apply the principles set forth in this article. The method of treatment recommended in the use of the materials presented, will be determined as much by the *differences* that appear in the attitudes, and in the natural and social environment of the child and of the race at a given stage of culture, as by the points of resemblance. In this way, it is hoped that it may be possible to avoid mistakes that might otherwise occur in dealing with a subject so new and yet so old.

KATHARINE E. DOPP.

THE UNIVERSITY OF CHICAGO.

GEOGRAPHY.

II.

ZONIA BABER.

FIRST GRADE.

WINTER QUARTER.

I. Lake Michigan: change produced by cold; ice harvest.

II. Houses: building, heating, lighting, food. Visit South Park conservatory—moisture; temperature; tropic fruits—bananas, oranges, limes, grape fruits, figs, dates—appearance when growing; harvesting.

III. Eskimo: home; provisions for warmth in winter; food. Life of Eskimo child.

SPRING QUARTER.

I. Garden-making: soil—best soil for garden; necessity of moisture; weeding.

II. Farm: visit farm. Spring activities—preparation of ground for planting; seeding; cultivation.

III. Home: necessities of a summer home; build a Yucatan wattled house for summer playhouse.

REFERENCES: King, *The Soil*; Gaye, *The Great World Farm*; Schwatka, *Children of the Cold*; Nansen, *First Crossing of Greenland*; Peary, *Northward over the Great Ice*.

SECOND GRADE.

WINTER QUARTER.

I. A study of prairies, semi-deserts, deserts. (1) Prairies—appearance at different seasons; grazing animals—cattle, sheep, horses, goats; life of herdsman. (2) Desert—appearance: rocky, sandy, sand dunes, oases; camels; caravans. Life in desert.

II. Winter effect on Lake Michigan; on rivers, swamp, prairie, garden.

REFERENCES: (I) Ratzel, *Agriculture and Cattle Breeding*; Marsh, "Deserts," *Man and Nature*; Gay, "Deserts," *Great World Farm*; Johnston, "Deserts," *Compendium of Africa*; Van Dyke, *The Desert*; Davis, "Deserts," *Physical Geography*.

SPRING QUARTER.

I. Agriculture: visit farm. (1) Gardening—plant, indoors, cotton, rice at time of seeding in southern United States; make garden. (2) Farm—removing remains of previous crop; plowing; harrowing; seeding.

II. Transportation: means by which we receive materials from distance. Visit car shops; boats. (1) On land—railroads; wagons, sleds, drawn by

horses, mules, cattle, camels, dogs, reindeer, buffaloes ; by pack — the above animals, also llama, elephant, man.

REFERENCES: (I) See first-grade outline.

(II) Cooley, *Transportation*; S. M. Shaler, "Beasts of Burden," *Scribner*, July-December, 1894; "Roads, Streets, and Vehicles," *Iconographic Dictionary*.

THIRD GRADE.

WINTER QUARTER.

I. Conditions for farming in a river valley: Pupils make river valley in the laboratory. Flood plain—effect of overflow of river on soil; on crops; protection against floods; building of levees; drainage—ditch, tile.

II. Conditions for farming in semi-deserts or deserts: (1) Irrigation: source of water supply—wells, rivers, reservoirs; means of conveying water to the crop. Pupils make model field showing irrigation.

REFERENCES: Davis, *Physical Geography*; Gilbert & Brigham, *Introduction to Physical Geography*; Mill, *Realm of Nature, International Geography*; Marsh, *Nature and Man*; *Year-Book of the Department of Agriculture*, 1895; King, "Irrigation," *The Soil*; Murray, "Irrigation in Egypt," *Handbook of Egypt*.

SPRING QUARTER.

I. Conditions for farming in mountains: (1) Slope—difficulties of retaining soil and moisture on steep slopes; terraces. (2) Climate in high mountains—temperature and moisture. (3) Vineyards on mountain slopes. Pupils plant grapes in garden; tending of vineyards; harvesting of grapes; wine-making. (4) Tea on slopes of Himalaya and in Ceylon—planting; tending; picking and drying tea. (5) Coffee—planting, cultivation, harvest. (6) Life of mountain people.

II. Plant in garden cereals and vegetables—in sandy soil; in gravelly soil; in clayey soil. Give each soil same amount of water—result. Remove weeds from a part, let weeds grow in other parts—effect. Best location for farmers—soil, moisture, heat, plant and animal conditions.

REFERENCES: Dodge, *A Reader in Physical Geography*; Blackie, *Tropical Readers*, 1 and 2; "Tropic Products," *Handbook of Information, Jamaica*, 1901; "Tea," "Coffee," "Grape," *Universal Encyclopædia*.

FOURTH GRADE.

WINTER QUARTER.

I. Building of streets, houses, bridges. (1) Streets: width; length; material used in paving—wood, stone, brick, asphalt, concrete, source of paving material. Visit streets which are being paved in the various ways; (2) Houses: visit houses which are building; source of material: (a) stone: kinds used—limestone, sandstone, granite, green stone, marble, quartzite; quarrying and dressing stone; (b) wood: visit lumber yards; kinds of wood

used in house-building ; lumbering — felling trees ; logging ; sawing ; lumbering in Michigan ; in Burmah ; in Brazil ; (c) iron : mining ; smelting ; visit foundries at South Chicago ; (d) bricks : visit brick yard at Purington ; material used in brick ; manner of manufacture.

REFERENCES: Annual Reports of the Department of Public Works of Chicago ; *Universal Encyclopædia* ; Diller, "Rock Specimens," *U. S. Geol. Sur. Educational Series* ; *Iconographic Encyclopædia*.

SPRING QUARTER.

I. Water supply of Chicago : visit crib and pumping station, also where basements are digging which reach ground water. Water tunnels ; manner of construction. (1) Springs, wells, rivers, as sources of water supply : (a) springs : formation ; kinds of — hot springs, cold springs, mineral springs ; source of water ; (b) wells : common and artesian ; modes of well-making ; source of water ; (c) rivers : source of water ; uses.

II. Clothing : sources of materials : (1) Cotton : plant in school garden. Best conditions for growth ; cotton culture in southern United States ; picture life on cotton plantation. (2) Wool : visit Stock Yards for sheep and wool ; picture life on sheep ranch ; sheep-shearing and preparation of wool for cloth. (3) Silk : raise silk worms in schoolroom. Best conditions for growth of silk worms. Stories of silk culture in China and Japan. (4) Flax : pupils plant flax in garden. Flax culture : preparation for linen — pulling, threshing, retting, breaking, scutching, hatcheling. (5) Fur : conditions which necessitate fur for animal covering. Principal furs of commerce. Visit fur store. Countries which produce most furs. Preparation of furs for use. (6) Leather : kinds of leather used for clothing ; means of preparation for use. Visit tannery.

REFERENCES: Adams, *Commercial Geography* ; *Universal Encyclopædia* ; Annual Reports of the Department of Public Works of Chicago ; Davis, *Physical Geography* ; Tarr, *Physical Geography* ; Gilbert & Brigham, *Physical Geography* ; Dryer, *Physical Geography*.

FIFTH GRADE.

WINTER QUARTER.

I. Drainage of North America : river basins ; river systems. Special study of important river basins — Mississippi river basin, St. Lawrence river basin, Atlantic system of river basins, Colorado river basin, Yukon river basin, Mackenzie river basin, Saskatchewan river basin ; position, extent, climate, products ; influence upon topography ; influence upon industrial pursuits of the region. Probable future if diastrophic conditions remain static.

II. Climatic condition of North America : relation to topography ; to oceans ; to latitude. Climate a cultural control ; climatic conditions of Chicago. Pupils keep record of sun's apparent movements ; temperature, rainfall, direction of winds.

REFERENCES: Mill, *International Geography*; Longmans, *School Atlas*; *Compendium of North America*; Reclus, "North America;" *Earth and its Inhabitants*, Shaler, *United States*; Shaler, *Story of Our Continent*; *National Geographic Monographs*; Davis, *Physical Geography*; Russell, *Rivers of North America*; Russell, *Lakes of North America*; Tarr and McMurray, *North America*; Shaler, *Nature and Man in America*.

SPRING QUARTER.

I. Glaciers and their effects: visit Barrington; north shore; Stony Island; Purington. (1) Result of glaciers in this region; effect on industrial conditions. (2) Distribution of existing glaciers of North America; work done and doing. (3) Continental glaciers of North America; extent; effect upon area covered; effect of continental glacier upon the cultural development of North America.

II. Distribution of some leading industries of North America: (1) Agricultural areas: regions best adapted to the production of wheat, oats, corn, barley, rice, sugar cane, sugar beets, cotton, flax, tobacco, fruits. Why? Visit farm. (2) Stock-raising: regions best adapted to raising cattle, horses, sheep, hogs, goats. Why? Visit Stock Yards. (3) Lumbering: visit lumber yards; distribution of hard-wood forests; of soft-wood forests. Lumbering in Central America; in Michigan; in Maine; on Pacific coast. Future of the lumbering industry. (4) Mining: distribution of iron, coal, copper, gold, silver, lead, tin; other metals. Reasons for concentration of metals or minerals; mining processes. Visit mills at South Chicago, Field Columbian Museum.

III. Distribution of political divisions; of cities: (1) Position and extent of Canada, United States, Mexico, Central America, West Indies, Greenland: (a) most important products of each country; (b) people—language, dress, customs; (c) cities—distribution of most important cities; reasons for location and importance: effect of waterways, mountains, native products; political reasons.

REFERENCES: See reference for winter quarter; Shaler and Davis, *Glaciers*; Russell, "Glaciers of North America," *Journal of Geology*, Vols. I-IV; Salisbury, *Physical Geography of New Jersey*; Scott, *Introduction to Geology*; Sievers, *America*; Shaler, *United States of America*; Dawson, *Canada and Newfoundland*; Parkin, *The Great Dominion*; *British Association Handbook of Canada*; Bancroft, *Resources and Development of Mexico*; Romero, *Geographic and Statistic Notes of Mexico*; Belt, *Naturalist in Nicaragua*; Brigham, *Guatemala, the Land of the Quetzal*.

SIXTH GRADE.

WINTER QUARTER.

Eurasia in connection with a study of history and current events.

I. Eurasia—terrestrial position; size; shape; influence of massiveness. (1) Highlands—plateaus, mountains. (2) Lowlands—position in relation

to highlands; in relation to climatic conditions; in relation to open oceans. (3) Drainage—ocean systems, inland systems; effect of each on the life-development of the areas. (4) Climate—prevailing winds; temperature; rainfall; influence of size, massiveness, and topography of continent on climatic conditions. (5) Europe—position in relation to remainder of continent; topography, drainage, climate. Influence of indented coast line; cause; compare with North American coast line. Mountains and plateaus; influence of position of mountain ranges upon climate and cultural development of northern and southern Europe. Plains; influence upon cultural development. Balkan peninsula: location, topography—Balkan mountains, Dinaric Alps, Thraco-Macedonian highlands; plains—drainage; climate. Greece: coast line, effect on people; surface, soil; climate; products; cities; people. Switzerland: position; influence on remainder of Europe; highlands—Jura zone, Swiss plateau, Alps; influence upon drainage—Rhine river, Rhone river, Danube river; climate—compare north and south side of mountains, winter and summer; wind, rain- and snowfall; products; scenic attraction. European plain—extent; drainage; climate; products.

Special study of the Netherlands: location, altitude, protection of land below sea level; drainage—Rhine river, Waal river, Lek river; influence of rivers and canals upon commercial development. Coast, sand dunes—use, means of retaining dunes. Natural products. Climate; influence of low altitude upon climate; influence of North Sea; rainfall upon polders or reclaimed land; upon higher land. Cities—appearance, location. Present government.

REFERENCES: Mill, *International Geography*; Keane, *Compendium of Asia, Compendium of Europe*; Reclus, "Europe and Asia," *Earth and its Inhabitants*; Lubbock, *Scenery of Switzerland*; Sven Hedin, *Through Asia*.

SPRING QUARTER.

I. Asia—relation to Europe; topography; climate. Influence of the Orient upon international relations. Special study of China, Japan, Korea, India. For detail outline, with reading references, see COURSE OF STUDY, *Chicago Institute*, May and June, 1900.

SEVENTH GRADE.

SPRING QUARTER.

North America and South America.

I. Western continent—size; shape; influence of shape upon its cultural development; topography—mountains, plains, plateaus; if American Mediterranean were land, effect upon life-development; if the high ranges of mountains were on the eastern side of the continent, effect upon life and culture. (1) North America—simple story of the evolution of the continent. (2) South America—location; area; altitude, compare with Africa; physical

features: Andes mountains, Guiana highlands, Brazilian highlands, central plain; river basins—Amazon, La Plata, Orinoco, Magdalena, Atrato, Guiana system; Patagonian system; as a system of water highways compare with other continents; climate—temperature, compare with Africa; prevailing winds; rainfall, compare distribution of rainfall with other continents; account for small desert area; native product; distribution of forests, prairies; culture products; distribution of political divisions, account for large number of small republics; probable difference in development had English instead of Spanish and Portuguese colonized South America; distribution of cities.

REFERENCES: Mill, *International Geography*; Keane, "South America," *Stanford's Compendium*; Reclus, *Nouvelle géographie universelle*; Humboldt, *Travels to the Equinoctial Regions of the New Continent from 1797 to 1804*; Ball, *Notes of a Naturalist in South America*; Markham, *Peru*; Hudson, *The Naturalist on the La Plata*; *Handbook of Uruguay* (Bureau of American Republics); *Handbook of Paraguay* (Bureau of American Republics); Agassiz, *A Journey in Brasil*; Bates, *A Naturalist on the River Amazon*; Wallace, *Travels on the Amazon and Rio Negro*; Rodway, *In the Guiana Forest*; Strickland, *Document and Maps of the Boundary Question between Venezuela and British Guiana*.

II. Mathematical geography—general relation of sun and earth causing change of seasons.

REFERENCES: Jackson, *Astronomical Geography*; Young, *General Astronomy*; Huxley, *Physiography*; Gregory, *Elements of Physiography*.

SPRING QUARTER.

I. Forests—distribution of forest areas of the earth; influence of forest upon the development of a country in temperate and tropic regions. Value of present forests, industrial and climatic; probable future of forest areas.

II. Agriculture—distribution of lands best adapted to farming; location of cereal belts; sugar cane; coffee; tea; tobacco; cotton. Account for location of the special crops—the geographic and human controls.

III. Stock-raising—distribution of areas best adapted to stock-raising; cause.

IV. Distribution of political divisions—nations important in international affairs; large land owners; England, Russia, China.

V. Distribution of leading cities. Account for location.

EIGHTH GRADE.

SPRING QUARTER.

I. Forests—distribution of forest areas of the earth. (1) Lumber: foremost wood-producing countries: United States, Canada, and Russia. Why? Place occupied by pine, oak, walnut, maple, chestnut, beech, ash, poplar, as useful woods. Other important woods: mahogany, teak, ebony.

bamboo, eucalyptus. Where produced? Special use? Modes of lumbering in cold countries; value of rivers, of snow. (2) Other products of forests—tar, turpentine, resin, rubber, quinine, gutta-percha, dyestuffs, camphor, cork; where, from what, and how produced? Value of forests in the development of a country in the temperate and tropic regions. Value and manner of re-forestation. Influence of deforestation; countries most affected by deforestation. Probable future of the present great forest areas. Comparative place of forestry in the world's industries.

II. Agriculture—distribution of lands best adapted to farming. Leading cereal crops—location; why? Manner of cultivation and disposition. Sugar cane: areas now employed in cane raising; why decreasing? Sugar beets: distribution of areas adapted to beet culture; areas now used for beet growing. Coffee: distribution of; cause of present over-production; result of coffee congress; coffee-drinking countries. Distribution of tea plantations; cultural methods; tea-drinking countries. Cacao: culture and distribution; chocolate consuming countries. Value of coffee, tea, chocolate as a social factor. Cotton: limit of distribution; why? Method of culture and disposition of crop in United States, India, Egypt. Tobacco culture. What elements enter into the geographic and human controls in the distribution and disposition of various crops.

III. Stock-raising—distribution of areas best adapted to stock-raising; regions where stock-raising now prevails; why? Cattle: motive governing production in United States; in India; in Argentine; in South Africa. Sheep: distribution of; fight between cattle and sheep herders in the western United States. Australia, Argentine, New Zealand, South Africa, Russia, as sheep-producing countries. Influence of refrigerator cars and refrigerator ships upon production of sheep, cattle, and swine. Distribution of swine; horses.

IV. Distribution of political divisions: Nations important in international affairs; why? Large land owners: England, Russia, China, United States; why? Relative value of distribution of a nation's land; compare England's and Russia's possessions. Special study of the great land-owning nations; geographic and political importance; account for material and human assets.

V. Distribution of leading cities of the world; account for position and importance; probable future.

REFERENCES: Mill, *International Geography*; Shaler, *Nature and Man in North America*; Ratzel, *Politische Geographie*; March, *Man and Nature, or Physical Geography as Modified by Human Action*; Adams, *Commercial Geography*; Chisholme, *Handbook of Commercial Geography*; Keltie, *Applied Geography*; Mill, *Elementary Commercial Geography*; Stanford, *Compendium of the Different Continents*.

KINDERGARTEN OUTLINE FOR OCTOBER, NOVEMBER, AND DECEMBER.

ANNE ELIZABETH ALLEN.

THE content of the mind of a child of three years is apt to be a mass of heterogeneous images behind an "I want" column of indefinite length. This "I want" soon develops into "I want to know" or "Why?" and then the problems of the teacher as well as parent begin.

How much to answer and how much may be left to be found out by the child himself; how one may best make of himself an appendix merely for reference after the young knowledge seeker has exhausted his resources; and how to know what are "the best conditions for his growth"—are the questions open to us. Occasionally one or more of these questions is answered in individual cases, but they are always open questions, and the answers need constant revision.

True comradeship with children, constantly studying them as a companion in their many vagaries and from all sides, seems to be one of the best ways to understand and help them. The temptation in our present education seems to be to overstimulate them, and try to propose the question a mature mind naturally asks instead of waiting for the problem to formulate itself into a question in their minds; to overstimulate an already intensely active body and to force a moral condition that the teacher himself is only just beginning to comprehend.

At this keenly intellectual period little or no stimulation is required, and the teacher or parent need only direct. Questions come only too fast as all know who have been much with little children.

The "interests of children," about which so much has been written by the child students of the day, while embracing with all children many fundamental and universal things, especially in earliest childhood, are at the same time, in different localities

and among different classes and nationalities, of very varying quantity and quality.

As the child grows older, these interests take on a more local coloring and bear, in many instances, a strong resemblance to those of his parents and closest friends. The son of a street-car conductor, engineer, street cleaner, or bricklayer aspires to these several occupations usually as unquestionably as the daughter of a household seizes upon some or all of the home industries she sees her mother engaged in.

The mind of a little child flits from interest to interest, from whim to whim, fortunately for him; and do we not sometimes forget the more fundamental interests and in unguarded moments follow too closely the more evanescent whims? Again, do we not follow *ad nauseam* the fundamentals and leave out the real appeal to his spontaneity and check genuine expression?

Humor seems to have been sadly overlooked in our education. Jokes are reserved for mature minds, and in our language are so broad many times as to be dreaded. Fun of any kind has been so long tabooed from the sacred precincts of the temples of learning that a pedagogue fears its approach as he would that of some unconquered and unconquerable monster. Yet it is the essence, the spice of childhood. Were our children educated more in this direction, would not the humor of our language become more refined and acquire a *finesse* now rarely known? Neidlinger, in his *Songs for Little Children*, has touched the keynote of the nonsense that children love, and Andrew Lang, Frank Baum, and others have supplemented time-honored "Mother Goose" in a way that encourages us to hope for better things yet to come.

A good, hearty laugh is a tonic for a whole day, and nothing makes for better comradeship between old and young. We forget that the smile was rather a late development in art, and that the appreciation of humor denotes a high degree of civilization.

The decision as to what materials to put into the hands of kindergarten children has undergone many modifications since the modern psychologists have turned their attention to its con-

sideration. Froebel, in his marvelous insight into child nature, has left us a legacy beyond price. Yet more recent investigation has thrown new light upon some of his wonderful discoveries and modified his conclusions to meet the wisdom of this, the twentieth century. We are learning to make use of and modify his tools with all their possibilities and take them from the altars where blind worshipers of the letter have sought to elevate them. We are learning truly to follow the children in their real interests, although many times blindly and falteringly, and let us hope questioningly. There should be no abrupt change between the kindergarten and first grade any more than between any other two grades of the school. There should be no isolation. The kindergarten should be considered a regular grade of the school and treated as such. When this is done we shall lose much, let us hope, of the fetichism now existing in our kindergartens and study the children more and the material with which we work a little less.

In the fall the children come to us fresh from their summer outing, where their liberty has in most cases been unrestrained; hence they should be confined indoors very little. Those who have been in the country are prepared to question the miracle of change going on outdoors. We, with our two adjacent parks, have ample opportunity, weather permitting, for spending much of our time amidst the most delightful surroundings. During October we shall plan to stay in the parks at least one of the three hours each morning, playing the romping games the children know, gathering seeds and leaves, or watching the changes taking place in our garden or in the park.

The more curious among the children are apt to be attracted by the pebbles, leaves in their changing colors, grasses, wild flowers, seeds, etc.; and collections of these will be made, assorting according to color, form, or size, as the children decide. Free-hand cuttings, water-color sketches, or clay models of these may be made, as well as envelopes for collections. These collections will be carefully arranged and kept by the children and added to their collections at home. The seeds will be planted in their gardens in the spring and the trees identified by their leaves.

We shall watch the changes the frost makes and visit a farm, if possible bringing home seeds, fruits, leaves, etc. As the weather drives us indoors, we shall take up the home industries characteristic of the season, preserving fall fruits in different ways, drying, canning, preserving, and making jelly. This will be put away for our Thanksgiving feast, which we shall prepare for and serve to another class in the school.

Then will follow the preparation for cold weather in the warming of our houses, warmer bedding, and warmer clothing. We shall watch to see how much later the sun arrives in the mornings and how much earlier he retires at night. Note contrast between this and the conditions in the summer, how the cold affects the outside as well as indoor life.

December will be devoted almost entirely to the manufacture by the children of Christmas presents. The designs for these will be made, in many cases, by the children themselves from the objects collected, and they will be simplified so that they may need little or no help in making them. Cuts of such articles will appear in the Christmas number of this magazine.

The spirit of Christmas will pervade all our work, both the fun and joy of it as well as the beautiful in myth and story.

We shall dress a tree, making the ornaments and supplying the toys for some unfortunate family. If it be possible, the children will take the tree themselves to its destination. Contributions of food and clothing will be asked for those needing them both at Thanksgiving and Christmas.

Materials used.—Large blocks, clay, sand, paints and water color, paper, blackboard, and crayon, colored papers and paste, for illustration of outdoor scenes or stories.

Music.—Appropriate songs, selected from Smith's, Gaynor's, Neidlinger's, Hill's, and Elliot's songs for little children.

Stories.—"I'll Tell You How the Leaves Came Down," Susan Coolidge; "Golden Rod and Aster," "Philemon and Baucis;" "The Swan Maidens," F. J. Cooke; "Which Was Happiest?" A. E. A.; "The Orphan Squirrels" and "The Broken Wing," from the Norwegian; "St. Christopher," "'Twas the Night before Christmas," "Little Table, Dish Up!" "Three Bears," "Seven Little Kids," selections from *Little Folks Lyrics*, F. D. Sherman; "Wynkin, Blynkin and Nod," Field.

Rhythm.—Simplest marching, skipping, and representative movements of the falling of leaves, flying of seeds, and blowing of the wind.

Music.—*Characteristic rhythms*, by C. L. Anderson, Parts I and II; "Invitation to the Dance," Weber; "World's Exposition March;" etc.

Games.—Circle catcher, four circles, "Jacob and Rachel," "Falling Leaves," "Milkweed Babies," tag, "Wind Horses."

We shall watch the changes the frost makes and visit a farm, if possible bringing home seeds, fruits, leaves, etc. As the weather drives us indoors, we shall take up the home industries characteristic of the season, preserving fall fruits in different ways, drying, canning, preserving, and making jelly. This will be put away for our Thanksgiving feast, which we shall prepare for and serve to another class in the school.

Then will follow the preparation for cold weather in the warming of our houses, warmer bedding, and warmer clothing. We shall watch to see how much later the sun arrives in the mornings and how much earlier he retires at night. Note contrast between this and the conditions in the summer, how the cold affects the outside as well as indoor life.

December will be devoted almost entirely to the manufacture by the children of Christmas presents. The designs for these will be made, in many cases, by the children themselves from the objects collected, and they will be simplified so that they may need little or no help in making them. Cuts of such articles will appear in the Christmas number of this magazine.

The spirit of Christmas will pervade all our work, both the fun and joy of it as well as the beautiful in myth and story.

We shall dress a tree, making the ornaments and supplying the toys for some unfortunate family. If it be possible, the children will take the tree themselves to its destination. Contributions of food and clothing will be asked for those needing them both at Thanksgiving and Christmas.

Materials used.—Large blocks, clay, sand, paints and water color, paper, blackboard, and crayon, colored papers and paste, for illustration of outdoor scenes or stories.

Music.—Appropriate songs, selected from Smith's, Gaynor's, Neidlinger's, Hill's, and Elliot's songs for little children.

Stories.—"I'll Tell You How the Leaves Came Down," Susan Coolidge; "Golden Rod and Aster," "Philemon and Baucis;" "The Swan Maidens," F. J. Cooke; "Which Was Happiest?" A. E. A.; "The Orphan Squirrels" and "The Broken Wing," from the Norwegian; "St. Christopher," "'Twas the Night before Christmas," "Little Table, Dish Up!" "Three Bears," "Seven Little Kids," selections from *Little Folks Lyrics*, F. D. Sherman; "Wynkin, Blynkin and Nod," Field.

Rhythm.—Simplest marching, skipping, and representative movements of the falling of leaves, flying of seeds, and blowing of the wind.

Music.—*Characteristic rhythms*, by C. L. Anderson, Parts I and II; "Invitation to the Dance," Weber; "World's Exposition March;" etc.

Games.—Circle catcher, four circles, "Jacob and Rachel," "Falling Leaves," "Milkweed Babies," tag, "Wind Horses."

GRADE OUTLINES.

FIRST GRADE.

BERTHA PAYNE,
Instructor in Kindergarten Training.

History.—The work which takes the place of history in the first grade will center about the building of playhouses, which will be used later in making a village. Before beginning the individual playhouses the children will try to build a large one out-of-doors, from material to be found in the neighborhood, such as brush, bricks, or stones, and the large leaves of the castor bean and canna that grow in the school garden. After these attempts with crude material, the museum will be visited to see how other people built their houses with few tools and without bricks or lumber. The Indian wigwam and cliff dwellings will be given the most attention. This playhouse will probably be unsatisfactory from the standpoint of permanence, but may serve to bring the problems of building material and essentials of construction more clearly before the children.

Each child will then contribute suggestions for the individual doll-houses. These suggestions will be received and tested. The plan chosen will be that of a wooden house, a story and attic in height. The problems of proportion of width, length, and height, of the number and size of rooms, of the size, number, and placing of doorways and window spaces, will all demand constant reference to these points in the neighboring houses and in the children's homes. The amount of light needed and the necessity of air currents will be taken into account in planning doors and windows.

The floor plans will be drawn and measured to a scale, and then the side walls and ends, leaving the roof until the last; but, before all, each child will make a manilla-paper model, according to his own idea of size and shape.

After the visit to the farm the children will co-operate on a representation of the farm-stead, adapting block-houses and pasteboard boxes to represent the various buildings. This making will help to focus their attention upon the products and their use as food for man and animals. For example, the corn-crib is necessary for the preservation of the corn for chickens, pigs, and cows; the hayloft is directly over the horses' and cows' stalls for convenience of feeding; in the storeroom the best of the seed is saved for next year's planting, and the family stores are safe from frost in the cellar. Much of this matter of relationship is not perceived clearly during the visit, but comes as the making progresses, and it is for this reason that these representations are useful. They offer a motive for work and are a means of holding the remembered experience longer in consciousness.

Literature.—The children will tell stories to each other and to the children of other groups, as a matter of social entertainment. The teacher will also take her part. The interest and respect of the new children have already been enlisted by the vivid story-telling of two children in their own group. For this purpose some of the old fairy-tales seem best for a beginning, such as "The Elves and Shoemaker" and "Town Musicians" of Grimm. They will also have the story of "Clytie" and "Goldenrod and Aster," from *Nature Myths and Stories* (Cooke); and the story of Mondamin from *Hiawatha*, the story of Piccola as told by Miss Cary, the story of St. Christopher, and an adaptation of Eugene Field's "Story of a Symbol and a Saint," will be told at Christmas time. The children will learn some poems, such as "I'll Tell You How the Leaves Came Down" (Susan Coolidge), and "Up and Down," by George MacDonald, in *Violin Songs*, and "Where Go the Boats" (Stevenson).

Geography and nature study.—The children will visit the school garden nearly every day during pleasant weather to gather seeds for next year's planting, and to collect insects for the window-box. They have discovered the characteristic food of several kinds of larvæ, and also the vegetables best liked by the rabbit. The amount of growth of various plants for the

summer will be measured and compared, and then they will measure and keep a record of the height of each child, to be compared with his height in six months. The weeds which have crowded upon the crops will be classified and traced to the adjoining field. The children have decided upon certain kinds of trees that they wish to have planted in the school garden, and with this in view will visit the park to see what attractions other trees offer. The tree selected by each child will be observed by him and its condition recorded in color at intervals throughout the school year.

The trip to the farm will be used to give them a larger picture of the conditions of production and the necessity and conditions for transportation. If possible, we will go to the docks to see the ship-loads of peaches unloaded, and to South Water street to see the market wagons loaded for delivery to groceries.

Another trip will be taken to the swamp and to the lakeshore at a point near the school. The children will be on the alert for interesting things to bring back to the schoolroom. Pebbles, sand, and plants will be brought from the lakeshore and swamp-water insects and characteristic plants from the swamp to fill an aquarium. The study growing out of each of these trips will be in the arrangement of specimens, in performing simple experiments in answer to questions that may be asked, and in making records in modeling, painting, drawing, or making.

A model of the beach will be made, and thereby the slope and the relative placing of sand, small pebbles, and cobblestones will be called to mind, as well as the beach plants and cliff plants.

Cooking.—This will be of the simplest kind—baked apples, baked potatoes, popped corn, custard, and barley candy.

Manual training.—Making doll-house in wood, and calendars for Christmas presents.

Sewing.—Making dusters and bags to hold material.

Modeling.—Fruit, animals, and Christmas presents in the form of napkin rings and candlesticks.

Singing.—Songs of the season and Christmas songs, melodic exercises based upon them, and reading of familiar songs. Songs: "The Squirrel's Thanksgiving," "Wind Song and the Apple Tree," from *Modern Music Series*, Book I; "Farewell to Summer," from *Songs for Little Children*, Book I (E. Smith).

SECOND GRADE.

CLARA ISABEL MITCHELL.

FALL QUARTER.

THE subject-matter of the course of study for the second grade is found in the natural environment, also in the social life of the community, especially that in which the children consciously partake.

The school program of work, play, and study is planned to give the children experience, to help them interpret that experience, and to give it adequate expression. It is therefore made up among the social occupations of cooking, gardening, wood-working, pottery, spinning, weaving, dyeing, and basketry; field and industrial excursions; plays, games, and entertainments; lessons in correlated nature study, history, literature, geography, and mathematics; and art expression in drawing, painting, clay-modeling, oral reading, and music. Writing and reading are taught as needed in the study of subjects and in the statement of questions and conclusions.

Cooking.—Baking of apples and potatoes in ovens out-of-doors. Apple jelly. Cranberry sauce. Pop-corn balls for Thanksgiving. Cream candies for Christmas.

Gardening.—Storing of seeds, vegetables, and grains from the garden planted last spring. Setting out of bulbs. Planting of window-boxes with seeds of the children's selection.

Wood-working.—Window-boxes. Trays for Christmas presents.

Pottery.—Tiles for window-boxes and trays.

Spinning.—Practice with spindle and spinning-wheel in making wool yarn.

Weaving.—Holders of hand-made, also machine-made yarn and roving. "Betsy Ross" cushion-covers, for Christmas presents, made of half-inch cotton strips, two colors, in plain weave, eighteen by twenty-four inches.

Dyeing.—Wool yarn and roving for holders. Cotton strips for cushion-

covers, with logwood, madder, indigo, fustic, cochineal, willow bark, sumac, turmeric, cutch, and iron rust.

Basketry.—Small work-basket of rattan, Nos. 2 and 3.

Excursions.—Woods, lakeshore, swamps, and sand ridge. Farm; produce and fish markets. Carpenter shop, blacksmith's shop; brick-yard, shipping and freight yards.

Nature study.—Collecting and labeling of all plants found in typical swamp, wooded, and sandy areas; methods of seed-dissemination in each. Stocking of aquarium and insect cage with specimens of animal life found on the same areas, for continued observation. Record in water color of seasonal changes in landscape.

History.—Beginnings of arts and industries in the life of primitive man. (1) Hunter life. North American Indians and ancient cave-dwellers as types. Rough stone weapons and bow and arrow; discovery of fire; cooking; invention of pottery; building of stone and timber shelters; domestication of animals. (2) Shepherd life. Present-day Arabs and ancient Hebrews as types. Dependence upon pasture land; wells, springs, and rivers; nomad life; carrying of tents; use of horses and camels; milk and flesh foods; working of leather; spinning and weaving of wool; making of carpets; dyes; beginnings of commerce; family life; patriarchal government; men servants and maid servants.

Literature.—Indian myths adapted from Emerson's *Indian Myths* and from the United States Ethnological Reports. The Bible stories of Abraham, Isaac, Jacob, and David. The Christmas story. "Muleykeh," Browning.

Oral reading.—*Autumn Fires* and *The Lamplighter*, Stevenson; *The World*, Anonymous.

Geography.—Soils of the swamp, lakeshore, prairie, and garden collected and compared as to appearance and constituents. Comparison of granite, limestone, sandstone, quartz, and mica as to color and hardness. Lessons on observations made at the farm upon the storing of fruits, grains, and vegetables, and the care of stock. Pictures of mountains and forests as background for hunter life; plains and hills as grazing land; deserts and oases as home of nomads; Arabian deserts, plains, and hills.

Mathematics.—Review and completion of work done by first grade in use of footrule and yardstick, liquid and dry measures, metric scales of weight, and thermometer. Learning to use and write numerical expressions for halves, fourths, eighths of the inch; halves, thirds, fourths, sixths, and twelfths of the foot; halves, thirds, and fourths of the yard. Learning and writing of the multiplication tables of ten, five, two, and three as they are needed in measuring. Writing and reading of all numbers used. Signs for addition, subtraction, multiplication, division, and equals taught with processes as needed. All of above to be taught in the working out of problems arising in the various occupations.

Plays, games, and entertainments.—Preparation and occasional dramatiza-

tion of stories, and reports of work for morning exercises. Serving of luncheons on birthdays and holidays. Phonics games. Guessing games. Skips, runs, and gliding movements to music of $\frac{3}{4}$, $\frac{4}{4}$, and $\frac{4}{4}$ rhythms. Catch-ball, circle-ball, toss-ball, and dodge-ball. Hopping pull away. Cat and mouse. Nine-pins.

Drawing and painting.—Illustration of stories and lessons. Studies from plant and animal life. Landscape of changing seasons. Patterns and working drawings for things made and modeled.

Writing.—New words and sentences which are a necessary part of the learning of new subjects. Rapid writing of needed words in a "dictionary" as a help in written lessons. Records of work done in all subjects, either dictated to the teacher or written directly by the pupils. Rapid visualization and writing of words which have been mis-spelled.

Reading.—Directions for work, rules for cooking, dyeing, and making. Written records which are to be discussed. Simple written and printed stories relating to subjects studied. Picking out of stories, with help of teacher, by means of questions and thought analysis. Verses indicated under "Oral Reading." Texts for songs.

THIRD GRADE.

GUDRUN THORNE-THOMSEN.

OUTLINE OF WORK FOR THE AUTUMN QUARTER.

THE basis for the work of the year is the community life of the children. The aim is to present the best conditions for the children to gain social experience, and to use this experience for the good of the community. To this end, the children will be organized into groups engaged in social activities.

Activities and occupations which will be carried on during the year are cooking; baking and preserving; care of domestic animals; chickens; gardening; a vegetable and flower garden; pottery; making of dishes, vases, statuettes, bas-reliefs; sewing; making of necessary articles for use in the school and at home: aprons, dusters, bags; woodwork: necessary apparatus, gifts for the home, toys. Other activities may be engaged in as necessity demands.

Knowledge matter: The children will be encouraged to acquire knowledge from every available source in order to carry on these activities in the most effective manner. For this purpose it will be necessary to visit factories and other places in the

vicinity where similar occupations are carried on; to study in museums various collections related to these industries; experiments; and to use books and pictures, as well as objects and specimens from the school museum. Each activity has a scientific and a social aspect; both will receive due attention.

Records of the children's work will be kept in the form of finished articles, collections of objects studied, written notes, essays, drawings, and paintings.

1. *Cooking*.—The preparation and cooking of foods, the serving of lunches, setting the tables, waiting at the table, and washing dishes are typical social occupations, thoroughly adapted to the physical and mental capabilities of the children of the third grade. In this work the children manipulate and choose materials, and have great opportunity for independent action. They feel the need of accuracy and neatness, and have every incentive to grow helpful and courteous. It makes a demand on the whole being, and is therefore one of the most educative activities of the school.

During the autumn quarter the children will make grape juice, put up jellies, make potato and corn soups, make bread and churn butter; and at Christmas time they will make barley candy and cookies. The activities relating to foods, both in the home and in the larger community, are most varied and full of lasting interest to children. Through his own occupation the child enters into a sympathetic relation with his surroundings, makes observations, and collects data to reinforce his own activity.

Subject-matter related to cooking :

(a) History: The farm. At least two visits will be made to a farm during the autumn quarter. Life and work of each member of the farm family. Farmer's care of animals. Study of the cow—habits, shelter, food, prehension of food; teeth, structure as adapted to function; chewing of cud. There will be an opportunity near the school to watch a cow closely, and to see her milked and fed; amounts of milk and butter used in a household per week, per month; the average yield of milk of one cow; amount of butter gotten from one gallon of cream. Present methods of threshing wheat and oats. The children will have the sheaves of wheat and invent methods of threshing and milling. Visits to mill.

REFERENCES: See Miss Rice's article in *ELEMENTARY SCHOOL TEACHER*, Vol. II, No. 4.

(b) Geography: A study of forms of land adapted to farming. The corn and wheat belt of the United States. Rainfall; slopes of land; work of rivers; underground water, springs. Means of study: Forms of land on all excursions; the brook basins at the north shore; work of rain wherever this may be noted. At the south shore a whole river-basin system on a small scale

may be studied. Children will mold in sand typical river basins; will see pictures and stereopticon views. Reading: Carpenter, *Geographical Reader*, "North America," "Indian corn and the corn belt;" *A Visit to a Great Wheat Farm*.

REFERENCES: See Miss Baber's article in *ELEMENTARY SCHOOL TEACHER*, Vol. III, No. 2.

(c) Science: Man's methods of distribution and collection of seeds for his own purposes. Nature's way of seed-dissemination. Proportion of number of seeds sown to number of seeds gathered. Water in fruit. Weigh fresh fruit, cut it into small pieces, and leave it to dry; when perfectly dry weigh again. The difference in weight represents the amount of water evaporated. Different members of the class will choose different kinds of fruit and compare results.

2. *Clay modeling, pottery*.—Making of dishes, vases, statuettes, bas-reliefs.

The farm animals which most interested the children will be modeled by them. These will be used in the model of a farm which the children are to work out in cardboard.

For Christmas gifts the children may choose from the following list, or suggest other articles: Vase, cup and saucer, paper-weight, pin-tray, ash receiver, napkin ring, postal card holder.

Children first work out their own plans in drawings or paintings, and next visit Burley's and other large china stores. After the visits the plans are often revised, and then the work in clay begins. Pictures and casts are used as means of study.

3. *Physical training*.—Outdoor sports and games, gymnastic exercises, dancing.

Subject-matter related to physical training. (a) History: Greek education and games, Spartan training, Olympic games. (b) Literature: Stories of Greek heroes which show that the perfection of the body was used in service; story of Phidippides, Leonidas, Theseus.

4. *Celebration of festivals and entertainments*.—Nothing in the school is of higher moral and intellectual value than the work done in preparing for the daily exercises, and for the celebration of the great festivals of the year. Spontaneity, the power of concentration, self-control, absence of self-consciousness, are qualities which grow out of this work. The children, stimulated by the desire to do something well for others, willingly give the close study of subject-matter that is required. The dramatic element which often enters into this work promotes freedom of action and a sense of responsibility.

For the daily exercises the children prepare reports of their work, poems, or simple dramatic representation of stories. For Thanksgiving and Christmas they have a part in a greater plan worked out by the whole school.

5. *Field work*.—Under this head comes work growing out of the children's

observations of nature, on their walks and trips in the immediate neighborhood. During the fall the children visit the south shore, the woods, a swamp, and perhaps the dunes. The work comprises a study of some phases of the relationship between soil, animal, and plant life, and the effect of the changes of season.

Subject related to field work: (a) Literature: Poems and stories of nature, as "I'll Tell You How the Leaves Came Down," by Susan Coolidge; "The Tree," by Björnson; the Greek myths of Clytie and Melampus and the Snakes. (b) Geography: As the nature-study and geography often coincide in the primary grades, it seems immaterial what name is attached to the work. The climatic conditions, temperature, rainfall, sunshine, must be studied in order to help the child to realize cause and effect.

6. *Manual training*.—Construction of a chicken house, to hold five chickens; the children to work out size and shape; a working drawing to precede the work. For Christmas gifts the children may select from the following list, or suggest other articles: Book-rack, footstool, paper-knife, shelves, envelope rack.

7. *Art*.—The art work comprises clay-modeling, designing with crayon and water color, blackboard drawing, water-color painting. The art work is constantly used as a means of study and as thought expression derived from the activities of the school life.

Subjects for water-color painting: The landscape, fall flowers, and fruits. Blackboard drawing: Farm animals, illustration of stories, designing, decoration on Christmas presents.

8. *English*.—The third-grade pupils will feel a constant need for reading to gain information. The aim is to give particular attention to the reading and writing during this year, so that the pupils may get skill enough to read anything which is adapted to them, and to write easily records of their work and original stories.

In writing, the pupils need many words which they cannot spell. The teacher either writes them on the blackboard or the child looks them up in his "dictionary," a notebook in which each child writes the words he has misspelled or asked for in the previous lessons. This dictionary, consisting of words which the child actually needs and uses constantly, becomes a spelling-book, if so it may be called, and the children often take it home to learn the words.

Rules of grammar will be given whenever needed to correct oral or written language.

9. *Arithmetic*.—The work in the third grade will be conducted on the supposition that the children are living a community life. If they are actually doing things which have social value, they will gain accurate knowledge of the activities in which they are engaged and grow into right habits of living.

Whenever the children encounter a process which they do not know how to handle, the most economic way of treating that process is shown them.

After finding out the quick and easy way to add, subtract, multiply, and divide, a great many problems of the same nature are given to the children at school and for home work. In this way the children are constantly gaining facility and ease in the automatic use of numbers.

FOURTH AND FIFTH GRADES.

GERTRUDE VAN HOESEN.

"Community life is the ideal of education, because it is the only ideal great enough to provide for the all-sided development of the individual."—*Colonel F. W. Parker.*

Under this ideal the basis of the work lies in the various activities of the school community—weaving, cooking, clay-modeling, manual training, metal work, gardening, gymnastics, and play. Each of these activities sends the children to the library, to the laboratory, to nature, for information, which may be classified as history, geography, science, or mathematics. In almost every case a demand is made for definite measurement, which necessitates the use of arithmetic.

Textiles.—The children will weave linen on a large loom, rugs on a large carpet-loom, smaller rugs on a hand-loom, silk or linen on a small hand-loom, and holders on a pasteboard loom.

Subject matter necessary: A. History: (1) the textile industries of Chicago; (2) the textile industries of the world; (3) the New England colony; (4) early explorers—Marco Polo, Columbus and Magellan.

The children will engage as far as possible in the actual work of the Puritan household.

1. They will weave and dye some of the material used.
2. They will make candles, both by dipping and using the molds.
3. They will prepare and cook the food used by the colonists.
4. Embroider designs in simple cross-stitch.
5. Dress Puritan dolls,

REFERENCES: Starr, *Stories of Indian Life*; A. M. Earle, *Child Life in the Colonial Days*; Alice Morse Earle, *Home Life in Colonial Days*; William Elliot Griffis, *The Boys of Scrooby*; *The Pilgrims in Their Three Homes*; H. C. Wright, *Children's Stories in American History*; *Children's Stories in American Progress*; N. Moore, *Pilgrims and Puritans*; H. A. Smith and S. T. Dutton, *The Colonies*; C. C. Coffin, *Old Times in the Colonies*; *The Story of Liberty*; *Stories of Industry*.

B. Geography: (1) geography of the Atlantic slope; (2) study of degradation and aggradation on the lakeshore and in the laboratory; (3) formation of coastal plains, of sunken rivers, and of river action; (4) study of the

sources of flax and wool, their cultivation, manufacture, and distribution in connection with the textile industry.

REFERENCES: See Miss Baber's outline.

C. Literature: Jennie Hall, *Viking Stories*; H. W. Longfellow, *Courtship of Miles Standish*.

Cooking.—The children will can their ripe tomatoes, pickle their green ones, make jelly, butter, cheese, and continue cooking in preparation for luncheons. They will also make candy for Christmas.

Jelly: In the preceding grades the children have made jelly for lunch. They will make it this year in order to find out the relative amount of juice in the different fruits. For this experiment they will use all of the fruits in market in October. Part of this jelly will be served at lunch and part of it sent with the Thanksgiving offerings to the settlements.

With the data obtained from making the jelly, the children will dry the same fruits in order to find out the relation between the amount of juice and the amount of water in the fruits.

The butter will be made after a visit to a farm. The question, "Why does the farmer sell his milk instead of making butter?" always arises with children of this age after a visit to a Cook county farm. By making it, they find out the actual cost of a pound of butter. With this as a basis they will investigate the industry carried on in creameries and dairies.

They will make cheese, both cottage cheese from skim-milk, and cheese made with rennet.

History and geography necessary for cooking: (1) excursions to places where food is found in large quantities—Stock Yards, South Water street, large grocery stores, etc.; (2) source of food, how it is prepared, and how transported to the city; (3) excursion to the Rock Island car yards to examine and measure the different cars used in transportation; history of transportation.

REFERENCES: Miss Baber's outline; Miss Rice's outline.

Physical training.—Games and exercises adapted both to the age and individual physical development of the children.

Nature study.—A comparative study of the plants and animals living on the areas around Chicago: (1) swamp; (2) dunes; (3) south shore of the lake; (4) north shore of the lake.

They will note especially: (1) the difference in the roots, particularly as to length and manner of growth; (2) the different ways in which the seeds are scattered. In seeking an explanation for the differences in growth, an examination of the soil from each area will be necessary. Of these examinations accurate records will be kept by each child.

Manual training.—The children will make a train to illustrate the different cars and boats used in transportation, plate-racks needed in the school-room, and Christmas presents.

Applied arts.—They will design and make baskets, hem dust-cloths, model tiles for teapots, which will necessitate geometric design, and tiles showing the life in the New England colony or modes of transportation, which will necessitate illustrative drawing.

English.—In every subject or activity under consideration the children are sent over and over again to books in order intelligently to continue their work. The ideal is to accept only perfect written work, whenever such work is necessary or helpful. Under this ideal, it is necessary to teach an intelligent use of the dictionary, to make a spelling-book composed of all words asked for, or mis-spelled, and to teach all the rules of English which are necessary in attaining the ideal.

Arithmetic.—The work under consideration will require the fundamental operations, fractions, and decimals, linear, square and cubic measure, besides the measures used in the cooking room.

SIXTH GRADE.

MARY REED.

OUTLINE FOR AUTUMN QUARTER.

History.—The French exploration and settlement of the Mississippi valley: Marquette; La Salle. Progress of industries in the English colonies. Comparison of French and English settlements. Beginning of the English movement westward: Washington's expedition to the Ohio. War between the French and English: Braddock; Quebec. England's restrictions on colonial industries. The Revolutionary War.

Geography.—Topography of North America as a whole: details of sections involved in the history study. Region about Chicago; causes of its present topography: glaciation and lake and river action.

English.—Description of experiments: recording of field notes and other data. Writing of stories from history subject-matter and a simple dramatization of some historical event. Exercise in the correct use of capitals and punctuation, and study of subject, predicate, and the sequence of tenses.

French.—Conversation: stories of Marquette and La Salle, and of life in the early French settlements. Grammar: subject and predicate.

German.—Conversation, black-board reading, and simple written exercises.

Literature.—Hawthorne, *Grandfather's Chair*; Holmes, "One Hoss Shay;" Catherwood, *Heroes of the Middle West*; Irving, *Rip Van Winkle*.

Science.—Chemistry and physics in connection with cooking. Observations of weather conditions, with use of thermometer, barometer, and rain gauge; plant life and soil of a selected area. Field trips to dunes, swamp, and lakeshore to study the plants, soil, and rocks of each.

Cooking.—Canning and preserving of fruits. Beginning of study of fermentation. Flour cookery and making of doughs and batters. Quantita-

tive determination of gluten in flour. Making of special dishes as occasion requires, as pastry for Thanksgiving and Christmas candies.

Number.—(1) Correlated: problems connected with cooking, with science lessons and summary of weather records, with longitude and time, and with children's own expense accounts. (2) Outcome: use of denominate numbers, English and metric; common and decimal fractions.

Art.—Clay: sketching and modeling of scenes from the story of Marquette and La Salle. Painting: in connection with study of plant life and of the landscape; study of early American building.

Manual training.—Making of articles needed in schoolroom and necessary simple apparatus; designing and making of Christmas gifts.

SEVENTH GRADE OUTLINE.

ELSIE AMY WYGANT.

History.—The history studied in the seventh grade will be the development of book making. During October the class will study the making of primitive records, hieroglyphics in clay and stone, and wax tablets, dwelling more at length on manuscript books of the Middle Ages. They will try to picture phases of this time, showing how the monasteries became the center of learning, with the control of books and book making, and the life outside of the monastery in the feudal castle. The story of St. Benedict and his followers in the work of book making will be told, trying to catch that spirit of high purpose and devotion which inspired some of these copyists. The law of Charlemagne which provided that every monastery should have a scriptorium and at least one copyist will be noted. Story of St. Jerome and of St. Francis of Assisi.

The scarcity of books made teaching through pictures a common thing, hence the predominance of mural decoration in public places, churches, etc., at this time. As an example of this, Giotto's pictures of St. Francis of Assisi, painted on the walls of the church at Assisi, were chosen.

In November this work will continue, taking Venice as the center of art and of commerce, showing how the route of the crusades increased the importance of Venice.

December will be devoted to a study of the crusades and, in this connection, a rounding out of the pictures of chivalry begun in October.

This history will grow out of the actual making of books which is the industrial side emphasized in the seventh grade. The children will recover either an old book which they wish to preserve, or they may put into more permanent and serviceable covers some of the paper-bound books of Mosher & Co. These publications are chosen, both because of their suitable subjects and because of the excellence of material and beauty of workmanship. The children will bind their work of the year, and will illuminate and bind one other thing.

The group will form itself into a guild, with rules governing work, and their ideals of workmanship will be formulated. This will be written at the beginning of the year and modified as the children's knowledge of the work and interest in the craft increases.

A visit will be made to the Arts and Crafts Society of Chicago, and members of that body interested in book making will be asked to talk to the class in the hope that this contact with real industrial life may increase their respect for good workmanship.

Literature.—The literature will be used largely to enrich the picturing of the times, the people, and the places which figure in the history work. With this in view the children will read and have read to them *St. Jerome and his Beautiful Book*, by T. B. Aldrich; parts of *Ivanhoe* and *Marmion*; "Gareth and Lynette," from Tennyson's *Idylls of the King*; *The Vision of Sir Launfal*; Longfellow's "Venice;" "Giotto's Tower;" "The Sermon of St. Francis" and "The Builders." Some other work will be given in preparation for Thanksgiving, Christmas, and other festivals.

HISTORY REFERENCE.—Buchot, *The Books*; Putnam, *Books of the Middle Ages*; Matthews, *Book-Binding, Old and New*; Horne, *Book-Binding*; Pollard, *Early Illustrated Books*; Madan, *Books in Manuscript*; Montalembert, *Monks of the West*, Vol. I, p. 389; Longfellow, *Monte Cassino*; Jameson, *Legends of the Monastic Orders*; Arnold, *Little Flowers of St. Francis*; Sketch of "St. Francis of Assisi," *St. Nicholas*, Vol. VIII, p. 351; Quilter, *Giotto di Bondone*; Perkins, *Giotto*; Ruskin, *Giotto and His Works in Padua*; "Sketch of Giotto di Bondone," *St. Nicholas*, Vol. VIII, p. 676; "Guilds of Middle Ages," *The Craftsman*, December, 1901. (For full bibliography see ELEMENTARY SCHOOL TEACHER, March, 1902, p. 503.)

English.—The aim in the work in English is to make writing a pleasurable and easy means of expression, and to form and strengthen habits of correct speaking. Believing that ease in writing comes through writing often and regularly, at least one piece of work will be asked for every day during the coming term. This writing will cover the records of field trips, retelling or dramatization of stories which will be used for morning exercises and special festival programs, invitations to other grades, notes and letters to the parents, and written acceptance of invitations received.

Geography.—The geography for the autumn quarter will be a study of the region about Chicago, and will include field trips, each of which is to emphasize one or more topographical forms, namely, rivers, mountains, deserts, and glaciers.

Rivers (Calumet and Desplaines).

Mountains (Stony Island).

Deserts (Miller's Station and South Shore).

Glaciers (Stony Island and Desplaines River).

Every child supplied with a note-book will make hasty notes and sketches in the field. Upon our return the notes will be worked over, and a full record of the trip made. These records will be made in two ways. In

some instances we shall simply give an account of the trip taken. In others we shall go with one or more hypotheses, and upon such a trip the notes will give only such data as proves or disproves the hypothesis.

Every field trip will include, not only a study of the topography of the region, but of the plants associated with that topography.

For details of map making see the mathematics below :

REFERENCES: Salisbury and Alden, *Geography of Chicago and its Environs*; Shaler, *Beaches and Tide Marshes*; Tarr, *Physical Geography*; Russell, *Lakes of North America*, *Glaciers of North America*; Geikie, *Earth Sculpture*; Geikie, *The Great Ice Age*; Gulliver, *Shoreline Topography*; Cowles, *Ecological Relation of Vegetation of the Sand Dunes of Lake Michigan*; Cowles, *The Plant Societies of Chicago and Vicinity*; Merrill, *Rocks, Rock Weathering, and Soil*, Bulletin II, *Geological and Natural History Survey of the Chicago Academy of Science*.

Science.—A part of the science period will be given to working out the plant relations suggested in the field trips for geography. In this connection a study of the soil will be made and two problems proposed, namely: What does the soil contain that the plant wants, and does the difference in the amounts of water in swamp and sand areas account wholly for the modification in plant structures?

To answer the first question make an analysis of the soil to find the amount of water, organic and mineral matter in it. Make same analysis of plants growing in that soil and compare results.

To answer the second, compare amounts of water in equal amounts of swamp and sand soils. Compare amount of water in equal weights of swamp and sand plants. How do soils compare with each other? Plants with each other? The plant with the soil in which it grows? Make simple chemical analysis of the same materials and compare.

This analysis will be put into some graphic form for use in the museum.

Upon these trips the especial work of the plants at this season will be noted and a classified collection of the seeds made. If the children have a working knowledge of the means of seed distribution, the quantitative phase of the work will be done with two questions in mind. First, are some seeds more sure of getting planted than others? Second, is this the main factor in the abundance of a given species? (To answer this question data must be gathered next spring also.)

The animal life found upon these trips will be studied, and when practicable brought home and their preparation for the winter observed in an outdoor cage made for that purpose.

The weather record with its interpretation will be an important part of the science work. The temperature of the air and soil, the barometer, and the direction of the wind will be noted upon the October record. (Later other items, as amount and intensity of sunshine, amount of rainfall, etc., will be added.) The record is kept upon a chart so arranged that the temperature

curve for the year may be followed. Change in landscape corresponding to the change in temperature and intensity of sunshine will be observed, and pictures of the landscape will be made twice a month to record this change.

The city weather bureau will be visited to see the methods of observations making in order to make our own as accurate as possible. The daily report of the weather bureau will be studied in view of the forecasts made upon it. As soon as a basis of judgment is gained, and some little skill in forecasting, the grade will form a weather bureau and make prognostications based upon their own observations and the weather report.

REFERENCES: Jackman, *Nature Study for the Grammar Grades*; *Practical Plant Physiology*, by Moor and by Detmer; Reynolds and Green, *Vegetable Physiology*; Coulter, *Plant Relations*; any good *Meteorology*; William Hamilton Gibson, *Sharp Eyes*; Cowles, *The Plant Societies of Chicago and Vicinity*.

Mathematics.— In the teaching of mathematics for the coming year the hope is that the children will grow into a sense of the need of the subject; that they may use mathematics as a tool; not as an isolated daily task. Because of this aim the problems in the various subjects will make conscious the demand for mathematics, so that at the time that a process is needed it will be taught, or drill will be given where skill in the manipulation of old processes is insufficient to make the tool a ready one.

Some algebra and geometry will be used during the year. The idea will be to emphasize the essential similarity rather than the occasional differences in the algebraic and arithmetical processes. When the use of fractions or the fundamental operations have become somewhat facile it will be the work of the seventh grade to formulate the principles involved. In cases where this is advantageous and feasible the processes may then be expressed in algebraic form. The positive and negative quantities, already somewhat familiar, will be used more freely, showing that every amount, magnitude, distance or force which admits of an opposite may be conveniently and simply distinguished by the use of plus and minus signs.

Geometry will be used whenever it will make the imaging clearer than will arithmetic and algebra.

Below is given, in some detail, such problems as may be demanded by the other subjects during the autumn quarter. It is not intended as a complete list, or that the whole will necessarily be covered. The amount and variety of the quantitative relations in the work are so great that only limitations of time and the children's ability can govern the choice of what is used.

The science work is very largely quantitative during this quarter. The children are more or less familiar with means of seed distribution, correspondence between lowering temperature and loss of plant and animal life, therefore the work will aim at definiteness of imaging. For instance:

a. Children will find actual number of seeds produced by a given plant. Number of these plants on a given area. What it would mean if every seed

germinated. Number of years required for plants to seed specified areas. Percentage of seeds destroyed.

b. The temperature of soil and air curves plotted on monthly science chart, replotted on sufficiently small scale to show year's curve on convenient sized paper.

c. Weighing of soils by metric system and the percentage of organic and inorganic matters. Same with plants.

The mathematics will enrich the geography by the making of a topographic map of Stony Island. This will necessitate use of compass and level; construction and measurement of angles; computing areas of a rectangle and constant use of decimals and fractions. Sufficient drill will be given in use of the standards of measurement, acres, rods, and feet, to make the estimates of distance in the field work as accurate as may be.

Astronomy.—Variation of the sun's positions and movements—variation of heat and light, latitude, longitude and time at sea and upon land; lantern lectures showing motion and position of plants, lunar topography, nebular, star clusters, sun-spots, etc.

Home economics.—The analysis of the amount of water and of mineral and organic matter in the soil and in plants will be continued in the study of foods. Analysis will be made of potato, white of egg, milk, and wheat, and as certain elements are discovered in given foods, experiments will be made on the effect of heat upon this element.

This analysis, as well as the other, will be graphically represented in some form suitable for use in the museum.

Housekeeping.—Care of room and its decoration.

Art.—The study of book-binding predetermines that at least a part of the art work of the year shall be a study of design suitable for book covers and the illumination of books.

For geography and science, rapid chalk modeling, pictures of the landscape in color, and of plants, seeds, fruit, and animal life in pencil, color and clay will be needed.

EIGHTH GRADE.

KATHERINE M. STILWELL.

THE work of this grade for the autumn quarter will include history, geography, nature study, mathematics, gymnastics, music, manual training, and Latin or German. Detailed outlines of these subjects appear below. In their development reading, writing, drawing, painting, music, and modeling will be used.

HISTORY AND GEOGRAPHY.

The pupils of the grade are beginning the study of Roman history by getting for themselves some notion of the Rome of today through photographs, stereopticon views, books, and, wherever possible, talks with relatives or friends who have been to Rome. Each child has taken some special object of interest to look up, such as the Colosseum, the Pantheon, the Forum, St. Peter's, the Vatican, and is to tell the class what he has found, illustrating by means of pictures, diagrams on the board, etc. One pupil brought an invitation from his father to the entire class to spend an evening at his home, for the purpose of looking at a collection of several hundred lantern-slide views of Rome.

The pupils will learn something of the topography of Rome, the origin of the plain and of the hills upon which the city is built. They will express this knowledge in sand maps, and then compare the location of Rome with that of Chicago. As there are many new pupils in the class, it will probably be necessary to make a brief study of Chicago—its location on the Chicago plain, its situation on Lake Michigan, and with reference to the surrounding country. Excursions will be made to the chief points of interest in the city, and comparisons made with Rome as to the manner in which the two cities have utilized their physiographic features.

The class will take up next some of the causes of the development of Rome, especially the advantages of topography, including here a study of the surface of Italy, its shape, and position on the continent, the situation of the Alps and Apennines, and the nature of its soil and climate. This will lead them to the consideration of ancient Rome, and they will note the contributions to her civilization made by the Etruscans and Greeks, and will reconstruct, so far as they can, the home life of the Romans, their dwellings, furniture, dress, occupations, amusements, etc.

The government of Rome will also be discussed, together with her increase of territory and the way in which she governed her conquered peoples. The Roman method of government will be compared with our own.

Teachers are referred to Mommsen's *History of Rome*. The pupils will use Harding's *City of the Seven Hills*, Guerber's *Story of the Romans*, Botsford's *History of Rome*, Hare's *Walks in Rome*, Lanciani's *Ruins and Excavations in Ancient Rome*, Baedeker's *Central Italy*, Harper's *Classical Dictionary*, Smith's *Dictionary of Antiquities*, encyclopædias, and Guhl and Koner's *Life of the Greeks and Romans*.

In addition to the geography already suggested, the class, starting with the volcanic origin of the hills of Rome, will study Vesuvius. They will learn, by the use of pictures, its present appearance, and will read about its formation, its past history, and its connection with the present seismic disturbances.

Using a map, they will locate the places of present activity (Russia, Mexico, Guatemala, the West Indian and Aleutian islands, and Hawaii). They will be shown stereopticon pictures of the great volcanoes of the world, and be encouraged to read their history. They will then study the types of eruptions, with special emphasis on Mt. Pelée as an example of the explosive type, and on Mauna Loa, Hawaiian Islands, as an example of the expulsive type. They will note the characteristics of each type, and will learn by pictures and by sand-modeling the characteristic shape of the hill or mountain built by each of the two kinds of eruptions, as well as the shape of the most common of all volcanic mountains, the composite cone. At every stage they will use the volcanic formations of Italy as the basis of comparison.

The various theories of the causes of eruptions will be presented and discussed. The pupils will use the references indicated below:

The *National Geographic Magazine*, June and July, 1902; the *Century* magazine, September, 1902; *The Outlook* (George Kennan's articles), 1902.

NATURE STUDY.

The nature study will consist largely of field work, for which the vacant lot south of Sixtieth street and east of Greenwood avenue will be used.

As indicated in Mr. Jackman's outline, there will be a survey of the results of the past growing season, and a study of some of the causes that have contributed to these results. This grade

will make a special study of the relation of the plants to each other, to sunlight, to moisture and to soil. This will require the use of reading, writing, painting, drawing, and number. A geometrical survey will be made of the lot itself and of the irregular areas covered by different plants. Additional work will be done in physics, Mr. Jackman having planned a series of lessons on electricity.

MATHEMATICS.

In connection with history the following work in mathematics will be given:

Geometry of structural work: (a) forms suggested by the University Press Building (starting with the Roman arch); (b) Roman architecture; (c) study of bridges; (d) steel buildings.

Related to nature study, the following surveys will be made

Geometrical surveying: (a) selected area for nature study; (b) irregular areas; (c) geometrical topography.

Additional work will be assigned those pupils who have not met the requirements of this grade of work.

MANUAL TRAINING.

ANNETTE BUTLER.

The manual training will be based upon the study and comparison of ancient and modern Rome with Chicago.

The design and construction of the commonest types of household furniture used in ancient Rome will be studied and compared with furniture in use at the present time. The different woods found in Italy, of which the furniture is most commonly constructed, will be considered. They will be compared with our common woods in texture, color, and durability. The class will visit one of the largest furniture stores of Chicago. After this visit they will begin the planning of Christmas presents, which will consist of simple articles of furniture. Each pupil will make his own design, following it by an accurate working drawing to a scale.

GERMAN. GRADES VII AND VIII.

E. PROKOSCH.

Starting with a description of the school and its surroundings, developed by German conversation and written exercises, the class will try to get a clear picture of the city of Chicago in its geographical, historical, and commercial aspect. A comparison with the modern and ancient city of Rome will lead to some German reading on Roman history. The interest of the pupils in the German language and their practice in independent reading will be greatly helped by a collection of German references, dealing in simple language with the nature study, history study, etc., of the two grades, and arranged by the teacher of German, with the help of the grade teachers, with special regard to the needs of individual pupils.

LATIN.

The pupils in the seventh and eighth grades who are not studying German will begin Latin. This will be closely related to the Roman history and will consist of simple reading lessons on the home life of the Romans.

MUSIC AND GYMNASTICS.

For work in these subjects see the outlines of the special teachers.

AN EXPERIMENT IN SELF GOVERNMENT.

At the beginning of the year, after talking with us about different plans of government, our teacher said there were four possibilities—anarchy, despotism, paternalism, and self-government.

After a very short discussion we saw that anarchy was out of the question—at least we said that we did. We were told we could not, of course, have complete self-government to start with, but that this would mean a protectorate at first. A ballot was taken, and almost all of us voted for self-government. But it soon became evident that self government really meant to us doing as we pleased—an idea that got us into trouble, as you will soon see.

For a few days everything went smoothly, but that was only because the plan was new. As soon as the novelty wore off we became careless regarding the rights of others, and before long we were very close to anarchy. Our teacher told us that the abuse of liberty always means the loss of liberty and the coming of a despot, but this warning only served to put off the evil day.

One afternoon we were left to ourselves during a study period. For a while we were very quiet; then someone spoke; the others joined in, and before long we were in the midst of the greatest confusion. Suddenly the door opened, and our principal stood on the threshold. "Is this the way you govern yourselves?" he asked. We immediately became quiet, and without waiting for a reply he left, but within a few minutes all was confusion again. He returned, saying: "Evidently you cannot be trusted, so I will remain with you."

When our teacher returned he was told of our failure; he started to speak, but did not, and after a pause, during which we were in the greatest suspense, he dismissed us in silence. We walked out with slow steps and heavy hearts, much more impressed by the silence, I am sure, than we should have been by the severest scolding.

The next morning on the most conspicuous part of the black-board was written the following :

Persons who abuse liberty must be made to obey the law. The Eighth Grade has proved repeatedly that it is not capable of self-government, and it is therefore placed under the rule of law. You will copy and obey the following rules :

Then followed several rules, the three that impressed us most being these :

You will not be trusted at all ; you will not do anything except under the personal direction of some teacher ; at the close of each recitation you will remain in your seats until a teacher appears to escort you to your next class.

Your recitations will be mere recitations ; there will be no discussions ; your instructors will be no longer teachers, but officers charged with the enforcement of the law.

You will each keep a copy of these rules where you can refer to them instantly at any time. You will ask no questions ; you will simply obey them.

On that memorable day there was weeping on the part of the girls, and even the boys were not happy. We were led about from class to class like prisoners, and treated in every way as such.

This went on for some days ; then one by one the deserving pupils were restored to liberty and were placed upon a free list. When this list was written on the board it was with the following explanation :

The free-list pupils live under liberty rather than law. That is, they follow a set of principles which they themselves have originated, or consented to, instead of a set of rules which they have had no part in making and obey under compulsion. They are trusted, not watched ; they regard teachers as friends and counselors, not as policemen ; and they have the privilege of voting. In general, they will simply observe the ordinary customs that obtain among ladies and gentlemen everywhere. In particular, they will be guided by a constitution which they have freely adopted.

Then followed the constitution, every article of which was discussed and consented to by the pupils on the free-list.

As the advantages of liberty appeared, more and more pupils earned the right to be placed upon the free-list, until finally we were all living under liberty again. But liberty meant more

than it did before, and, although some have been put under law for a time since then, most of the class have tried faithfully to live up to our constitution, and the class as a whole has never failed again as it did on that day before the reign of law began.

As a result of our experiment, we have come to see that self-government brings out the true character of a person ; that it teaches the real meaning of liberty and develops self-control, uprightness, and a sense of honor.

AN EIGHTH-GRADE CLASS.

NOT IN CHICAGO.

FRENCH.
ACTE DEUXIÈME.

SCÈNE I.

(Monsieur Jourdain, le maître de musique, le maître à danser.)

Monsieur Jourdain. Voilà qui n'est point sot. Ah ! les menuets sont ma danse ; et je veux que vous me le voyiez danser. Allons, mon maître.

Le maître à danser. Un chapeau, monsieur, s'il vous plaît.

(Monsieur Jourdain va prendre le chapeau de son laquais et le met par-dessus son bonnet de nuit. Son maître lui prend les mains et le fait danser sur un air de menuet qu'il chante.)

La, la, la, la, la, la,
La, la, la, la, la, la, la,
La, la, la, la, la, la,
La, la, la, la, la, la,
La, la, la, la, la.

En cadence, s'il vous plaît.

La, la, la, la, la.

La jambe droite.

La, la, la.

Ne remuez point la tête.

La, la, la, la, la, la, la, la, la, la.

Vos deux bras sont estropiés.

La, la, la, la.

Tournez la pointe du pied en dehors.

La, la, la.

Monsieur Jourdain. Hé !

Le maître de musique. Voilà qui est le mieux du monde.

Monsieur Jourdain. A propos, apprenez-moi comme il faut faire une révérence pour saluer une marquise ; j'en aurai besoin tantôt.

Le maître à danser. Une révérence pour saluer une marquise !

Monsieur Jourdain. Oui, une marquise qui s'appelle Dorimène.

Le maître à danser. Donnez-moi la main.

Monsieur Jourdain. Non, vous n'avez qu'à faire, je le retiendrai bien.

Le maître à danser. Si vous voulez la saluer avec beaucoup de respect, il faut faire d'abord une révérence en arrière, puis marcher vers elle avec trois révérences en avant, et à la dernière vous baisser jusqu'à ses genoux.

Monsieur Jourdain. Faites un peu. (Après que le maître à danser a fait trois révérences.) Bon.

SCÈNE II.

(Monsieur Jourdain, le maître de musique, le maître à danser, un laquais.)

Un laquais. Monsieur, voilà votre maître d'armes qui est là.

Monsieur Jourdain. Dis-lui qu'il entre pour me donner leçon. (Au maître de musique et au maître à danser.) Je veux que vous me voyiez faire.

SCÈNE III.

(Monsieur Jourdain, un maître d'armes, le maître de musique, le maître à danser, un laquais, tenant deux fleurets.)

Le maître d'armes (après avoir pris les deux fleurets de la main du laquais, et en avoir présenté un à monsieur Jourdain). Allons, monsieur, la révérence. Votre corps droit, un peu penché sur la cuisse gauche. Les jambes point tant écartées. Vos pieds sur une même ligne. Votre poignet à l'opposite de votre hanche. La pointe de votre épée vis-à-vis de votre épaule. Le bras pas tout à fait si étendu. La main gauche à la hauteur de l'œil. L'épaule gauche plus carrée. La tête droite. Le regard assuré. Avancez. Le corps ferme. Touchez-moi l'épée de quarte, et achevez de même. Une, deux. Remettez-vous. Redoublez de pied ferme. Une, deux. Un saut en arrière. Quand vous portez la botte, monsieur, il faut que l'épée parte la première, et que le corps soit bien effacé. Une, deux. Allons, touchez-moi l'épée de tierce, et achevez de même. Avancez. Le corps ferme. Avancez. Partez de là. Une, deux. Remettez-vous. Redoublez. Une, deux. Un saut en arrière. En garde, monsieur, en garde.

(Le maître d'armes lui pousse deux ou trois bottes, en lui disant : En garde.)

Monsieur Jourdain. Hé !

Le maître de musique. Vous faites des merveilles.

Le maître d'armes. Je vous l'ai déjà dit, tout le secret des armes ne consiste qu'en deux choses : à donner et à ne point recevoir.

Monsieur Jourdain. De cette façon donc, un homme, sans avoir du cœur, est sûr de tuer son homme et de n'être point tué ?

Le maître d'armes. Sans doute. N'en vîtes-vous pas la démonstration ?

Monsieur Jourdain. Oui.

Le maître d'armes. Et c'est en quoi l'on voit de quelle considération nous autres nous devons être dans un État, et combien la science des armes l'emporte hautement sur toute les autres sciences inutiles, comme la danse, la musique, la . . .

Le maître à danser. Tout beau ! monsieur le tireur d'armes ; ne parlez de la danse qu'avec respect.

Le maître de musique. Apprenez, je vous prie, à mieux traiter l'excellence de la musique.

SCÈNE IV.

(Un maître de philosophie, monsieur Jourdain, le maître de musique, le maître à danser, le maître d'armes, un laquais.)

Monsieur Jourdain. Hola! monsieur le philosophe, vous arrivez tout à propos avec votre philosophie. Venez un peu mettre la paix entre ces personnes-ci.

Le maître de philosophie. Venons à notre leçon. Que voulez-vous apprendre?

Monsieur Jourdain. Tout ce que je pourrai : car j'ai toutes les envies du monde d'être savant ; et j'enrage que mon père et ma mère ne m'aient pas fait bien étudier dans toutes les sciences quand j'étais jeune.

Le maître de philosophie. Ce sentiment est raisonnable ; *nam, sine doctrina, vita est quasi mortis imago.* Vous entendez cela, et vous savez le latin, sans doute ?

Monsieur Jourdain. Oui : mais faites comme si je ne le savais pas ; expliquez moi ce que cela veut dire.

Le maître de philosophie. Cela veut dire que, *sans la science, la vie est presque une image de la mort.*

Monsieur Jourdain. Ce latin-là a raison.

Le maître de philosophie. N'avez-vous point quelques principes, quelques commencements des sciences ?

Monsieur Jourdain. Oh! oui. Je sais lire et écrire.

Le maître de philosophie. Par où vous plaît-il que nous commençons ? Voulez-vous que je vous apprenne la logique ?

Monsieur Jourdain. Qu'est-ce que c'est que cette logique ?

Le maître de philosophie. C'est elle qui enseigne les trois opérations de l'esprit.

Monsieur Jourdain. Qui sont-elles, ces trois opérations de l'esprit ?

Le maître de philosophie. La première, la seconde, et la troisième. La première est de bien concevoir, par le moyen des universaux ; la seconde, de bien juger, par le moyen des catégories ; et la troisième, de bien tirer une conséquence, par le moyen des figures, *Barbara, celarent, Darii, ferio, baralipton, etc.*

Monsieur Jourdain. Voilà des mots qui sont trop rébarbatifs. Cette logique-là ne me revient point. Apprenons autre chose qui soit plus joli.

Le maître de philosophie. Voulez-vous apprendre la morale ?

Monsieur Jourdain. La morale ?

Le maître de philosophie. Oui.

Monsieur Jourdain. Qu'est-ce qu'elle adit, cette morale ?

Le maître de philosophie. Elle traite de la félicité ; enseigne aux hommes à modérer leurs passions, et . . .

Monsieur Jourdain. Non, laissons cela : je suis bilieux comme tous les diables, et il n'y a morale qui tienne ; je me veux mettre en colère.

Le maître de philosophie. Est-ce la physique que vous voulez apprendre ?

Monsieur Jourdain. Qu'est-ce qu'elle chante, cette physique ?

Le maître de philosophie. La physique est celle qui explique les principes des choses naturelles et les propriétés des corps ; qui discourt de la

nature des éléments, des métaux, des minéraux, des pierres, des plantes et des animaux, et nous enseigne les causes de tous les météores, l'arc-en-ciel, les feux volants, les comètes, les éclairs, le tonnerre, la foudre, la pluie, la neige, la grêle, les vents et les tourbillons.

Monsieur Jourdain. Il y a trop de tintamarre là-dedans, trop de brouillamini.

Le maître de philosophie. Que voulez-vous donc que je vous apprenne ?

Monsieur Jourdain. Apprenez-moi l'orthographe.

Le maître de philosophie. Très volontiers.

Monsieur Jourdain. Après, vous m'apprendrez l'almanach, pour savoir quand il y a de la lune, et quand il n'y en a point,

Le maître de philosophie. Soit. Pour bien suivre votre pensée, et traiter cette matière en philosophe, il faut commencer, selon l'ordre des choses, par une exacte connaissance de la nature des lettres et de la différente manière de les prononcer toutes. Et là-dessus j'ai à vous dire que les lettres sont divisées en voyelles, ainsi dites voyelles parcequ'elles expriment les voix ; et en consonnes, ainsi appelées consonnes parcequ'elles sonnent avec les voyelles et ne font que marquer les diverses articulations des voix. Il y a cinq voyelles ou voix, A, E, I, O, U.

Monsieur Jourdain. J'entends tout cela.

Le maître de philosophie. La voix A se forme en ouvrant fort la bouche : A.

Monsieur Jourdain. A, A. Oui.

Le maître de philosophie. La voix E se forme en rapprochant la mâchoire d'en bas de celle d'en haut : A, E.

Monsieur Jourdain. A, E, A, E. Ma foi, oui. Ah ! que cela est beau !

Le maître de philosophie. Et la voix I, en rapprochant encore davantage les mâchoires l'une de l'autre, et écartant les deux coins de la bouche vers les oreilles : A, E, I.

Monsieur Jourdain. A, E, I, I, I, I. Cela est vrai. Vive la science !

Le maître de philosophie. La voix O se forme en rouvrant les mâchoires et rapprochant les lèvres par les deux coins, le haut et le bas : O.

Monsieur Jourdain. O, O. Il n'y a rien de plus juste. A, E, I, O ; I, O. Cela est admirable ! I, O ; I, O.

Le maître de philosophie. L'ouverture de la bouche fait justement comme un petit rond qui représente un O.

Monsieur Jourdain. O, O, O. Vous avez raison. O. Ah ! la belle chose que de savoir quelque chose !

Le maître de philosophie. La voix U se forme en rapprochant les dents sans les joindre entièrement, en allongeant les deux lèvres en dehors, les approchant aussi l'une de l'autre, sans les joindre tout à fait : U.

Monsieur Jourdain. U, U. Il n'y a rien de plus véritable. U.

Le maître de philosophie. Vos deux lèvres s'allongent comme si vous

faisiez la moue; d'où vient que, si vous la voulez faire à quelqu'un, et vous moquer de lui, vous ne sauriez dire que U.

Monsieur Jourdain. U, U. Cela est vrai. Ah! que n'ai-je étudié plus tôt pour savoir tout cela!

Le maître de philosophie. Demain, nous verrons les autres lettres, qui sont les consonnes.

Monsieur Jourdain. Je vous remercie de tout mon cœur, et je vous prie de venir demain de bonne heure.

Le maître de philosophie. Je n'y manquerai pas.

(Des éclats de rire, des bravos, ce sont fait entendre de tous les côtés.)

Le comte de Frontenac. On se croirait au royaume des lys.

FIRST READING LESSON.

LETTRE DU PÈRE MARQUETTE.

(Le départ. Les peuples de la folle avoine. Ce que c'est que la folle avoine.)

Le jour de l'Immaculée Conception de la Ste. Vierge M. Joliet arriva avec les ordres de M. le comte de Frontenac, notre gouverneur, et de M. Talon, notre intendant, pour faire avec moi la découverte de la grande rivière appelée par les sauvages Mississippi, qui conduit au Nouveau Mexique.

Nous ne fîmes pas longtemps à préparer notre équipage; du blé d'Inde avec quelque viande boucanée furent toutes nos provisions, avec lesquelles nous nous embarquâmes sur deux canots d'écorce, M. Joliet et moi avec cinq hommes, bien résolus à tout faire et à tout souffrir pour une si glorieuse entreprise.

Nous partîmes le 17 jour de mai 1673 de la mission de St. Ignace à Michilimackinac.

La première nation que nous rencontrâmes fut celle de la folle avoine.

La folle avoine dont ils portent le nom, parcequ'elle se trouve sur leurs terres, est une sorte d'herbe qui croît naturellement dans les petites rivières dont le fond est de vase, et dans les lieux marécageux: elle est bien semblable à la folle avoine qui croît parmi nos blés. Les épis sont sur des tuyeaux noués d'espace en espace, ils sortent de l'eau vers le mois de juin, et vont toujours montant jusqu'à ce qu'ils surnagent de deux pieds environ. Le grain n'est pas plus gros que celui de nos avoines,

mais il est une fois plus long, aussi la farine en est-elle plus abondante.

Dans le mois de septembre, qui est le temps propre pour cette récolte, ils vont en canot au travers de ce champs de folle avoine, ils en secouent les épis dans le canot à mesure qu'ils avancent; le grain tombe aisément s'il est mûr, et en peu de temps ils en font leur provision.

Pour le nettoyer de la paille et le dépouiller d'une pellicule dans laquelle il est enfermé, ils le mettent sécher à la fumée, sur un gril de bois sous lequel ils entretiennent un petit feu, pendant quelques jours, et lorsque l'avoine est bien sèche ils la mettent dans une peau en forme de *pouche*, laquelle ils enfoncent dans un trou fait à ce dessein en terre; puis ils la pillent avec les pieds, tant et si fortement que le grain, s'étant séparé de la paille, ils le vannent très aisément, après quoi ils le pillent pour le réduire en farine, ou même sans être pillé ils le font cuire dans l'eau, qu'ils assaisonnent avec de la graisse; et de cette façon on trouve la folle avoine presque aussi délicate qu'est le riz, quand on n'y met pas de meilleur assaisonnement.

Après avoir prié Dieu et avoir donné quelques instructions à la nation de la folle avoine, nous nous séparons d'eux et nous arrivâmes peu de temps après dans le fond de la baie *des Puants*,¹ ou la baie salée, ainsi appelée par cette nation.

Nous quittâmes cette baie pour entrer dans la rivière qui s'y décharge; elle est très belle en son embouchure et coule doucement; elle est pleine d'outardes, de canards, de cercelles et d'autres oiseaux qui y sont attirés par la folle avoine.

Quand on a un peu avancé dans cette rivière, on la trouve très difficile, tant à cause des courants que des roches affilées, qui coupent les canots et les pieds de ceux qui sont obligés de les traîner quand les eaux sont basses.

¹ Une quantité de vase et de boue se rencontre dans cette baie, d'où s'élèvent continuellement de méchantes vapeurs.

BOOK REVIEW.

American Political History to the Death of Lincoln. Popularly told by VIOLA A. CONKLIN. 800. Pp. xv+435. Price \$1.50. Henry Holt & Co., 1902.

THIS work is of necessity general and very much condensed—the first two chapters on “The Old Dominion” and “The New England Theocracy,” seeming almost “packed,” but with well selected material. The quotations with which the book abounds, from Jefferson on the Town Meeting to the final tribute to Lincoln, are very pertinent.

The immediate pre-Revolutionary period is well treated. The introduction of Barré’s speech and Burke’s wise words is happy, as well as the excellent references to Pitt, and the Colonial donation responses, though more emphasis might be laid on the desire, in common with the colonists, of the new Whigs for more liberty and increased representation.

One marked excellence is in limiting the details of the War of Independence to a few pages, containing forcible examples of loyalty and side lights on contemporary European conditions, which, in spite of their important bearing, are often omitted from text-books, and in consequence remain wholly unknown to the average student.

The Critical Period, presented in the chapters on “The Confederation” and “The Constitution,” is well treated, and includes good accounts of the Ordinance of 1787, commercial negotiations with foreign countries, and our own domestic development of trade.

The grouping of the earlier part of the book is better than the later division of the book into Presidencies.

A perusal of what the author has to say on currency, the tariff and commercial expansion will be of special and timely interest. Though a political history, social and industrial influences and events which were at work shaping our institutions, are not neglected.

IDA M. PAHLMAN.

J. N. THORP SCHOOL,
Chicago.

EDITORIAL.

THE Elementary School of the School of Education is composed of children ranging in age from three to fifteen years, under the direct supervision of trained, experienced teachers, who are assisted in their work by the departmental teachers and by the pedagogic students.

In appreciation of the fact that one teacher cannot give individual attention to a large number of children, the school is divided into groups numbering not more than twenty pupils in each.

The central thought determining the movement of the school is that of community life. The attempt to respond to the needs of society in the work of the school was begun by Colonel Parker in the Cook County Normal School in 1883. A completer organization of the school as an ideal community, and its interpretation in relation to the larger community, has been throughout the problem upon which the work of the faculty has been directed. The school has borne various titles, the Cook County Normal School, the Chicago Normal School, the Chicago Institute, and the School of Education, but the continuity of its history is to be found in the effort to comprehend the terms of this problem.

The purpose of making the school a community in harmony with society leads to the recognition of occupations as fundamental in the lesser as they are in the greater community. Thus the occupations of gardening, cooking, housekeeping, making of clothing, wood-working, have come by degrees to be regarded of first importance. Conviction is growing that the basic occupations should be the center around which the school community must organize itself.

These occupations involve materials and process which call for explanation and extension of knowledge into all fields of investigation; the subjects of history, literature, languages, science, mathematics, and geography find their most effective use in response to this demand. This knowledge is reached by contact with real objects, natural and cultural, through field excursions, visits to industrial centers, museums, art galleries, and through the medium of books.

The child is given an opportunity for the full expression of the power developed through social activities, interpreted through subject-matter, in the arts of drawing, painting, modeling, music, and dramatic expression.

Perfect physical control is essential to free expression. Under ideal conditions work itself would produce a well-developed body, but with the defects of inheritance and ill-adjusted work, gymnastic training is necessitated as corrective and supplementary means.

The school should not only relate itself with society as a whole, but it should create conditions for artistic work and play within its own circle. Work and play of the right sort themselves call out the social virtues, yet certain practical measures may be taken toward the fostering of the friendly spirit between individuals, and of energetic co-operation in plans of the whole. The free and natural intercourse in shop-work and in the field is a good counterbalance to book study, of which the tendency is toward isolation. All exercises and ceremonies which keep the school as a whole in evidence, help maintain the desired social attitude. The morning exercises are the social center of the school. It is to the school community what the fireside is to the home—a place where the entire family, from the kindergarten to the pedagogic students and the faculty, meet to exchange that which each deems of worth for the general good. "It is the clearing-house for the entire school work," a place where the experience and knowledge acquired by any individual or division may be presented to the school. The celebration of holidays and fête days unifies the school community and furnishes a stimulus for study and expression.

The value to the child of free normal intercourse with people of maturity and right ideals is of supreme importance in the development of breadth of moral and mental attitude. The intimate association of the children with each other, with the pedagogic students and the faculty—that is, the mingling of all ages in work, play, and social functions—is the greatest factor in the social movement of the school. Nowhere is this result more apparent than in the purely social functions, parties, receptions, and luncheons given by one division of the school to another, to the parents, or the faculty. Through the general parents' meetings which bring together the parents of all the children, and the special meetings of the parents of the different groups, an effort is made to form a closer union between the family and the school. Here the teachers and parents work together for a more clearly defined purpose of education, a more complete development of the child.

ZONIA BABER.

THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

SOZODONT

A perfect Dentifrice for the

Tooth and Mouth

SOZODONT LIQUID . . . 25c
SOZODONT TOOTH POWDER . . . -25c
Large LIQUID and POWDER . . . 75c

25^c

A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

HALL & RUCKEL, New York.



MENNEN'S

BORATED TALCUM

TOILET POWDER

Delightful After Bathing
A Luxury After Shaving
Beautifies and Preserves the Complexion

A positive relief for Chapped Hands, Chafing, and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get Mennen's (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25c.

AVOID HARMFUL IMITATIONS. (SAMPLE FREE.)

GERHARD MENNEN CO., Newark, N. J.



Your baby plays on the floor, where dust and germs abound. Before sweeping, sprinkle the floor or carpet with properly diluted

Platt's Chlorides.
The Odorless Disinfectant

Jaeger
PURE WOOL UNDERWEAR

Protects
Against
Temperature Changes.

**The Standard Sanitary
Underwear for Men, Women
and Children.**

Endorsed by Leading Physicians.

Also various JAEGER Novelties and
Specialties.

Don't forget that the Best is the Cheap-
est and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

RIDE A COCK-HORSE TO BANBURY CROSS,
TO SEE A FINE LADY UPON A WHITE HORSE,
RINGS ON HER FINGERS, AND BELLS ON HER TOES,
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME
TO HER GLAD INFANT, THE WHILE KEEPING TIME,
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.
THROUGH
MRS. WINSLOW'S SOOTHING SYRUP
OVER FIFTY YEARS SOLD
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

The Most Fashionable Perfume

You will not find it in every store.
It is not used by everybody.
Sold at the best stores only.
Used by refined people only.

EAU DE COLOGNE

Johann Maria Farina

Sternengasse 9-11 in Föln.



Queen Alexandra says:

There is something fascinating about users of 9-11
Cologne. It is certainly the most delicious per-
fume; It invigorates and refreshes.

INSIST on 9-11 Cologne and TAKE NO OTHER.

Import office, 1-3 Ann Street, New York.

Big Four Route

FROM
CHICAGO
TO

Indianapolis, Cincinnati, Louisville,
the
South and Southeast.

DIRECT LINE TO
Asheville, N. C., and Florida.

THE SCENIC LINE TO
Virginia Hot Springs and Washington, D.C.
via the Picturesque
CHESAPEAKE & OHIO R'Y.

W. J. LYNCH, G.P. & T.A. W. P. DEPPE, Ass't G.P. & T.A.

CINCINNATI, O.

J. C. TUCKER, G.N.A. 234 Clark St., CHICAGO

Dr. Deimel Underwear



BEARS A LABEL WITH THIS TRADE MARK

The Dr. Deimel Underwear has made "Linen-Mesh" famous wherever underclothing is worn.

During every season and in every climate it means good health and solid comfort.

Booklet telling all about it, with samples of the material, free, address

The Deimel Linen-Mesh Co. (Originators of Linen-Mesh)

Department O.40, - 491 Broadway, New York

Or
SAN FRANCISCO WASHINGTON, D.C. BROOKLYN, N.Y. MONTREAL, CAN. LONDON, W.C., ENG.
111 Montgomery St. 728 15th St., N.W. 510 Fulton St. 2202 St. Catherine St. 83 Strand, (Hotel Cecil)

WHEN THOMAS A. EDISON, Sr., invented the phonograph, the whole world applauded and wondered. Later, when he produced the electric light, the people of all the earth gave him homage as the worker of marvels. Now, as a splendid climax to the work done for humanity, Thomas A. Edison, Jr., son of the illustrious wizard, gives to the world his Magno-Electric Vitalizer, the best and most beneficent of all wonderful inventions.

Again has science labored and brought forth a marvel. This time the product is one of electricity—the Magno Electric Vitalizer—and its inventor is none other than Thomas A. Edison, Jr., son of that great wizard who has given to the world so many wonders.

The Magno-Electric Vitalizer is now being offered to the public with absolute assurance that it will fill a long-felt want.

Electricity has transformed the world and why shouldn't it transform the world's methods of curing its sick? This is the reasoning of Thomas A. Edison, Jr., in his presentation of the Magno-Electric Vitalizer. This invention has already commanded the attention of medical men and of the laity in all parts of the world.

It is being placed on the market by Mr. Edison's own company, the Thomas A. Edison Jr. Chemical Co., No. 14, Stone St., New York. Upon application, a book containing complete information will be sent free to all who may be interested in the cure of disease by electricity.

Address correspondence Dept. P.



MANY ADVANTAGLS.

Perfect in fit, never ragged or uncomfortable. Very convenient, stylish, economical. Made of fine cloth and exactly resemble linen goods. Turn down collars are reversible and give double service.

NO LAUNDRY WORK.

When soiled, discard. Ten collars or five pairs of cuffs 25c. By mail, 30c. Send 6c. in U. S. stamps for sample collar or pair of cuffs. Name size and style.

REVERSIBLE COLLAR CO., Dept. 12, Boston.

**CARBON LETTER
Book**
REPRODUCED BY
S. D. CHILDS & CO.
Stationery
100-142 MONROE ST. CHICAGO



Copy Your Letter While You Write

BY USING THE

CARBON LETTER TAB

Letter Copying Made Cheaper, Cleaner, and More Convenient

100 Letters and 100 Copies in Each Book. Bound in Board
Covers with Carbon, Ready for Use

Letter Size (8½ x 11), Ruled or Plain

\$0.75

Note Size (6 x 9½), Ruled or Plain

.50

Sent postpaid on receipt of price

S. D. CHILDS & CO.

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

Insert your letter—turn

the crank—and your copy's made.
No wet cloths to handle—no
damp blotters to arrange—no
screwing down letter-press.

It stands always ready.

The pressure of the copy-
ing-rollers is always the
same. Never a blurred letter,
nor an indistinct copy.

Every copy clean
and perfect—
no faint copies
to guess at.
Copies made
on the RAPID
ROLLER LET-
TER COPIER can be
filed right with the
letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,

Rochester, N. Y.

Branches in N. Y., Phila.,
Boston, Chi., San F., and
seven other cities.



Order Your STATIONERY

: : BY MAIL : :

The University of Chicago Press

has exceptional facilities for filling mail orders
for the latest styles of stationery and other
fine papers

An Excellent Line of Whiting's Standard Fine Writing Papers

in all the latest styles, kept regularly in stock, both in
boxes and by the quire

Whiting's Number One Quality and Standard Linen

are especially recommended

Monogram Embossed Paper and Pads of all Sizes

*Orders taken for Fine Engraved
Calling Cards at Reasonable Prices*

THE UNIVERSITY OF CHICAGO PRESS

Retail Department : : CHICAGO, ILLINOIS

"MODERN" MIDDLE JOINT FOUNTAIN PENS



The Largest and Best Gold Pens
The Highest Class Fountain Pens

**Do not leak at the joint; hold more
ink than others because they can
be filled full**

All forms of Fountain Pens, at moderate prices, including Automatic Self-Filling and Old Joint

If no local dealer has a good assortment of "MODERN" Pens, send direct to the makers,

A. A. Waterman & Co.,

22 Thames St, New York

SPENCERIAN

The Standard of
Excellence for
over forty years

STEEL PENS



Select a pen for your writing from
a sample card of special numbers for cor-
respondence. 12 pens for 10c., postpaid.

SPENCERIAN PEN CO.

349 Broadway, NEW YORK CITY

"AFTER ALL **CARTER'S INK** IS THE BEST"



An Old Bookkeeper is Discriminating

Better take his advice and use CARTER'S
Send for booklet "Inklings"—Free

THE CARTER'S INK CO. - BOSTON, MASS.



Help Yourself

There is a depth of meaning in these words—*help yourself*. No attainment worth the having has ever been made without self help.
All who are in earnest to accomplish a definite purpose within the scope of their intelligence can do it, *but they must help themselves*.

If you believe that a strong, sound body and active mind are desirable possessions to attain success in life, you can secure them by building yourself out of the right material—Natural Food.

SHREDDED WHOLE WHEAT BISCUIT

is Natural Food—food whose each integral part has a counterpart in your body and which builds it symmetrically and as a harmonious whole. The beauty of form and adaptability of this perfect food lends it a grace to the eye. It can be prepared in over 250 different ways. The natural whole wheat flavor of SHREDDED WHOLE WHEAT BISCUIT pleases the palate. Wholly nourishing, as it does, the whole body, it appeals to Reason.

Help Yourself

Sold by all grocers. Send for "The Vital Question"
(Cook Book, illustrated in colors), FREE. Address

THE NATURAL FOOD COMPANY, Niagara Falls, N. Y.

THE SMITH PREMIER TYPEWRITER

**MAKES LIGHT
THE WORK
OF CORRESPONDENCE**

It is the best value type-
writer for the Office,
Schoolroom....and
the Home.....

Grand
Prize
Paris
1900
Highest
Award
Possible.



New Illustrated Catalogue Free.
THE SMITH PREMIER TYPEWRITER CO.,
SYRACUSE, N. Y., U. S. A.

THE BEST
SEND FOR CATALOGUE

FIFTY
STYLES



**PAUL E. WIRT
FOUNTAIN PEN**
ALL
DEALERS OR ADDRESS, BLOOMSBURG, PA.

WHY not use a clean Fountain
Pen, one that will write and
write always, without skipping,
blotting, or scratching?

The above Fountain Pen is and
has been sold on its merits all over
the world for sixteen years, and is
unconditionally guaranteed.



THE EARLIEST
HAMMOND
DOES BETTER WORK
THAN THE NEWEST
MACHINE OF ANY
OTHER MAKE

The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

The only polyglot using on the same machine,
one hundred type shuttles, in twenty-six languages, in-
stantly interchangeable.

An indestructible machine. Will last
generations and outlive ten type bar machines. Writes
like print—prints like writing.

The best manifolder. The one machine
producing perfect and permanent alignment with uni-
form impression.



**The Hammond
Typewriter
Company**

69th to 70th Street, East River
New York, N. Y.



"THE NAME IS EVERYTHING."

Esterbrook

on a pen is an absolute
guarantee of its excellence

ESTERBROOK
FALCON No. 048 is
the most popular
pen in the world.
Over 150 varieties of
other styles to suit
every purpose. All
stationers have them.
Accept no substitute.

THE ESTERBROOK STEEL PEN CO.
Works, Camden, N. J. 26 John Street, N. Y.



In Twenty Years THE Remington TYPEWRITER

*has saved the world enough
labor to build an Empire.*

WYCKOFF, SEAMANS & BENEDICT
(Remington Typewriter Company)
327 Broadway New York

A POINT IN THE RIGHT DIRECTION.

Is our advice to try

Dixon's American Graphite Pencils.

The satisfaction of using a pen-
cil that always does what is ex-
pected of it, sharpens to a fine
point, and in which the lead
doesn't break, either in sharp-
ening or use, is not one of the
least comforts to a busy person.

Dixon's Leads Don't Break.

Their grades never vary.
Pencils for all uses,

each one bearing our trade-
mark, the best of its kind.

*If not sold by your dealer, send us
10c. for samples worth double.*

Joseph Dixon Crucible Co.,
Jersey City, N. J.



Densmore Does More



Ask About It

Densmore Typewriter
Company

309 Broadway, New York

A Wonderful Material! PANTASOTE

Waterproof—Greaseproof—Stainproof

Also Germproof and FIREPROOF! Unlike other leather substitutes, it contains no cellulose, rubber or other dangerous and objectionable substances and is also entirely odorless.

Pantasote does not peel or crack, is not affected by heat, cold or climate. Looks like Morocco leather, wears better and costs half. Tested nine years with unqualified success. Made in plain leather grains or richly embossed designs all standard colors.

A Piece 18 x 18 in. for 25 cents in stamps. Free sample 15 x 6 in. for ac. stamp and your upholsterer's address.



Awarded GOLD MEDAL at Buffalo.

CAUTION—There are dangerous and worthless imitations; genuine has Pantasote stamped on goods.

PANTASOTE CO., Dept. Z, 11 Broadway, New York

CROWN PIANOS

*Noble in Tone
Chaste in Appearance
Durability Unquestioned*

GEO. P. BENT
Manufacturer Chicago

LONG LIVED ORGANS

STYLE 4405.



are valuable investments. Our instruments have extraordinarily long lives. They are thoroughly well made and are absolutely mouse proof. One great source of annoyance and expense is thus removed. Our latest model, style 4405, has just begun its career, but has lived long enough to earn popularity and show that it is like its fore-runners in staying qualities and excellence.

Mason & Hamlin Co.
BOSTON. NEW YORK. CHICAGO.

MONON
TRAINS FOR
La Fayette
W. Baden Spr.
Fr. Lick Spr.
Louisville
Mammoth Cave
Chattanooga
New Orleans
All Southern
Cities



MONON
TRAINS FOR
Indianapolis
Dayton
Cincinnati
Asheville
Atlanta
Jacksonville
St. Augustine
Tampa
Havana.

You travel between

**CHICAGO
LOUISVILLE
INDIANAPOLIS
AND
CINCINNATI
CO VIA**

MONON ROUTE

AND C.H.&D Rwy.

LUXURIOUS PARLOR AND DINING
CARS BY DAY.

PALACE SLEEPING AND COMPART
MENT CARS BY NIGHT.

6 TRAINS DAILY BETWEEN
CHICAGO AND THE OHIO RIVER

W. H. McDEEL FRANK J. REED Gen'l. Pass. Agt. CHAS. H. ROCKWELL
Pres. & Gen'l. Mgr. CHICAGO. TRAFF. MGR.

Kuyler's



LICORICE TABLETS,

(5 & 10¢ PACKAGES.)

FOR COUGHS & COLDS.

MADE WITH PURE SPANISH LICORICE.



GLYCERINE TABLETS,

(10¢ POCKET TINS.)

FOR RELIEF OF

HOARSENESS & THROAT AFFECTIONS.



ITALIAN PEPPS,

(10¢ ALUMINUM POCKET PACKET.)

A HANDY POCKET STAMP BOX WHEN EMPTY.



GUM IMPERIALS,

(10¢ ALUMINUM BOXES.)

ASSORTED PURE FLAVORINGS.

IF NOT SOLD BY YOUR DRUGGIST,

MAILED FREE UPON RECEIPT OF PRICE.

Kuyler's

863 BROADWAY, N.Y. CITY.



LIEBIG
COMPANY'S
EXTRACT
OF BEEF

CERTAINTY for the Cook



PERFECTION



**SELF-
CLEANING
AND
FILLING;
DOES
NOT
DROP
INK.**

FOR SALE AT

THE EXCLUSIVE PEN STORE

96 STATE STREET, (STEWART BUILDING) CHICAGO

MABIE, TODD & BARD



Cyko A Night Printing Paper.
Cyko is the most perfect of all
Developing Papers.
Made in a variety of surfaces and speeds
adapted for all classes of negatives.
NO DARKROOM REQUIRED.
One dozen 4x5 Cyko with developer
20 cents. Send to
THE ANTHONY & SCOVILL CO.,
122-124 Fifth av., Atlas Block,
New York, U.S.A. Chicago.

Skin Diseases

If you suffer from Eczema,
Salt Rheum, Ringworm, Itch,
Ivy Poison, Acne, or other
skin troubles,

Hydrozone

will cure you.

Cures sunburn in 24 hours. In cases
of Prickly Heat and Hives it will stop
itching at once, also will relieve mos-
quito bites.

*Hydrozone is a scientific Germicide,
Used and endorsed by leading physi-
cians. It is absolutely harmless,
yet most powerful healing agent.*

As these diseases are caused by parasites,
killing them without causing injury to the suf-
ferer, naturally cures the trouble.

Sold by leading druggists.

FREE to any one sending me 10c. to cover actual
postage, will send a bottle containing suf-
ficient to prove to your entire satisfaction the claims here
made. Pamphlet sent free. Address

Prof. Charles Harchand

59 W. Prince St., New York.

A Xmas Present

The numbers **3-4-5** Cartridge and Plate

KODAKS

and the number **3 F. P. K.** are now
kept in stock fitted with the celebrated

GOERZ Double Anastigmat LENSES

We supply either the *Universal Series III.*
Lenses (F 6" also perfect for wide angles
when used on larger cameras) or the *New*
Series 1c Lenses, which are 17" faster,
but cannot be used for wide angle views.

Full particulars and prices free on application
to all Kodak dealers.



ORCHESTRA

Instruments, Violins, Flutes, Mandolins, Guitars,
Banjos, &c. Lyon & Healy and "Washburn" in-
struments are in use everywhere and are sold by
leading music dealers. Ask for "Dept. G" Catalog,
illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.

The World's Largest Music House. Sells "Everything Known in Music."

PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting
which must be disposed of at once. These pianos include
Steinways, Knabes, Fischers, Sterlings and other well known
makes. Many cannot be distinguished from new, yet all are
offered at a great discount. Uprights
as low as \$100. Also
rights at \$125.
A magnificent in-
fully equal to many
monthly payments accepted. Freight is only about \$5. Write
at once for complete list and full particulars. You can make a
great saving by securing your piano from us. Every piano war-
ranted as represented. "A Piano Book," free. Write today.

LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



Rare Old Violins

Largest and finest collection on this continent.
Fine catalogue (free) containing 50 fac-simile
labels in colors and Biographies of all the
noted makers. List and particulars of Solo
instruments from \$50 to \$10,000. Monthly
payments may be arranged. Violins sent on
seven days examination. Formal Certificate
of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.

\$3000.⁰⁰/₁₀₀

Rochester, N.Y. Aug. 1 1902

Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World
Three Thousand ⁰⁰/₁₀₀ Dollars

Bausch & Lomb Optical Co.

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Promos, Pocos and other hand cameras with B. & L. Lenses being provided.

ROCHESTER, N. Y.

Who will send full information on request.



THE
ALTON'S
1903
FENCING
GIRL

Copyright, 1903
by C. & A. R. Y.

ART CALENDAR

Four graceful poses from life; figures ten inches high, reproduced in colors. Highest example of lithographic art.

"THE ONLY WAY"

to own one of these beautiful calendars is to send twenty five cents, with name of publication in which you read this advertisement, to GEO. J. CHARLTON, General Passenger Agent, Chicago & Alton Railway, 328 Monadnock Building, CHICAGO, ILL.

The best railway line between CHICAGO, ST. LOUIS, KANSAS CITY and PEORIA.

WABASH

New Short Line

BETWEEN

CHICAGO AND TOLEDO

THROUGH PULLMAN SERVICE

FREE RECLINING CHAIR CARS

ON
ALL WABASH TRAINS

C. S. CRANE

G. P. & T. AGENT

ST. LOUIS

F. A. PALMER

A. G. P. AGENT

CHICAGO



To those who have to provide for the needs of a considerable number of persons Ivory Soap at once commends itself. It is so pure that it will meet the demands of the critical and yet so cheap that it will come within the means at command. The chances are, too, that the Ivory is the soap to which the majority are accustomed. It will seem like a touch of home.

IT FLOATS.

BUFFALO LITHIA WATER In All Forms of Bright's Disease, Albuminuria of Pregnancy, Uric Acid Diathesis, Gout, Rheumatism, Lithæmia, Renal Calculi, and Stone of the Bladder, Etc., Etc.

Dr. George Ben Johnston, Richmond, Va., ex-President Medical Society of Virginia and Professor of Gynecology and Abdominal Surgery, Medical College of Virginia: "IF I WERE ASKED WHAT MINERAL WATER HAS THE WIDEST RANGE OF USEFULNESS, I WOULD UNHESITATINGLY ANSWER BUFFALO LITHIA. It is a most valuable remedy in many obscure and stubborn conditions which, at best, yield slowly, if at all, to drugs. In URIC ACID DIATHESIS, GOUT, RHEUMATISM, LITHÆMIA, and the like, its beneficial effects are prompt and lasting.

"Almost any case of Pyelitis and Cystitis will be alleviated by it and many cured.

"I have had evidence of the undoubted DISINTEGRATING, SOLVENT, and ELIMINATING POWERS of this water IN RENAL CALCULUS, and have known its long continued use to permanently break up the gravel-forming habit.

"It is an agent of great value in the treatment of the Albuminuria of Pregnancy, and is an excellent diuretic in Scarlatina and Typhoid Fever. In all forms of BRIGHT'S DISEASE, except those hopelessly advanced, its good effects are pronounced. I believe it has been the means of prolonging many lives in this trouble."

John V. Shoemaker, M.D., LL.D., Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc., in the New York Medical Journal, June 22, 1899: "The **BUFFALO LITHIA WATER** is DOUBLY EFFICIENT in Rheumatism and Gout. It dissolves Uric Acid and Phosphatic sediments, as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the Kidneys and Bladder. The intense suffering produced by Stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination. Inquestionably, although the speedy removal of Uric Acid and other products of faulty tissue change is of conspicuous benefit, yet to PREVENT their formation is a service still more important. This service is performed by the **BUFFALO LITHIA WATER** when it corrects those digestive failures which are responsible for the production of deleterious materials."

James L. Cabell, M.D., A.M., LL.D., Formerly Professor of Physiology and Surgery in the Medical Department of the University of Virginia, and President of the National Board of Health, says: "**BUFFALO LITHIA WATER** in Uric Acid Diathesis is a well-known therapeutic resource. It should be recognized by the profession as an article of Materia Medica."

Dr. J. W. Mallet, Professor of Chemistry, University of Virginia. (Extract from report of analysis of Calculi discharged by patients under the action of **BUFFALO LITHIA WATER** Spring No. 2):

"It seems on the whole probable that the action of the water is PRIMARILY and MAINLY upon URIC ACID and the URATES, but when these constituents occur along with and as cementing matter to Phosphatic or Oxalic Calculus materials, the latter may be so detached and broken down as to disintegrate the Calculus as a whole in these cases, also thus admitting of urethral discharge."

Spring No. 1 is both a NERVE and a BLOOD TONIC, and in PALE, FEEBLE, and ANÆMIC SUBJECTS is to be preferred. In the absence of these symptoms No. 2 is to be preferred.

BUFFALO LITHIA WATER is for sale by Grocers and Druggists generally.

Testimonials which defy all imputation or questions sent to any address.

PROPRIETOR - BUFFALO LITHIA SPRINGS - VIRGINIA

Finest in the World
**BAKER'S
COCOA**



—
**LOOK
AT
THE
LABEL**
—

**TAKE
NO
OTHER**
—

CHOICE RECIPES, 36 PAGES, SENT FREE
WALTER BAKER & CO. Ltd.
ESTABLISHED 1780. DORCHESTER, MASS.
40 Highest Awards in Europe and America

WEBER PIANOS

Piano building as a fine art has never been more highly exemplified than by our recent productions. Send for description of our new style A Grand, the most remarkable Small Grand in volume and quality of tone ever produced by any maker. Its length is but 5 feet 4 inches.

THE WEBER PIANO COMPANY

108 FIFTH AVE., NEW YORK
266 WABASH AVE., CHICAGO

HAND SAPOLIO

Does what soap cannot do, by a method of its own. If you want a velvet skin, don't PUT ON preparations, but TAKE OFF the dead skin, and let the new, perfect cuticle furnish its own beauty. An exemplification of the luxury of cleanliness. Imparts vigor and life sensation. Energizes the whole body, bringing a glow and exhilaration

A PURE ARTICLE
Free From Animal Fats

YUSE PIANOS

have been established over 30 YEARS. By our system of payments every family in moderate circumstances can own a YUSE piano. We take old instruments in exchange and deliver the new piano to your home free of expense.

Write for Catalogue D and explanation.

VOLUME III

NUMBER 5

The Elementary School Teacher



JANUARY, 1903

Chicago: *The University of Chicago Press*

Subscription: \$1.50 per Year: Single Numbers 20 cents

Entered as second-class

Postpaid



The Story of Beauty for 100 Years

*A vision of old-time beauty steps
Into the mirror's honest depths
And with the modern maiden shares
A Century's Beauty found in*

PEARS'

The Soap of Quality

The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

CONTENTS FOR JANUARY, 1903

| | | |
|--|-------------------|-----|
| THE PLACE OF THE KINDERGARTEN | ALICE C. DEWEY | 273 |
| HOW AND WHY WE LEARN. II | C. B. GILBERT | 289 |
| MORNING EXERCISES | MARTHA FLEMING | 296 |
| NOTES ON THE PSYCHOLOGICAL OBSERVATION OF CHILDREN. I.
. | WILLARD C. GORE | 307 |
| SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS. II.
. | KATHARINE E. DOPP | 318 |
| NATURE STUDY FOR THE GRADES | WILBUR S. JACKMAN | 326 |
| BOOK REVIEWS: | | |
| <i>Mabie-Bates</i> : Norse Stories; <i>Hall</i> : Viking Tales, GUDRUN THORNE-THOMSEN; <i>Kipling</i> :
<i>Just So Stories</i> for Little Children; <i>Smith</i> : Eskimo Stories, BERTHA PAYNE | | |
| EDITORIAL | | 332 |
| BOOKS RECEIVED | | 336 |

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to THE UNIVERSITY OF CHICAGO PRESS,
CHICAGO, ILLINOIS

The Elementary School Record

A SERIES OF MONOGRAPHS ON THE ELEMENTARY
SCHOOL OF THE PEDAGOGICAL DEPARTMENT OF THE
UNIVERSITY OF CHICAGO

Edited by JOHN DEWEY and LAURA L. RUNYON

The object of the *Elementary School Record* is to make possible for use in other schools the details of subject-matter and method in the application of modern psychology in education, as demonstrated by the University Elementary School. The plan includes a series of nine monographs, each number containing a record of work done by a group in the school, and also an article concerning the work of one department in all grades.

The series, royal 8vo, cloth,
net. \$1.76; postpaid, \$1.80.

The University of Chicago Press
CHICAGO, ILLINOIS

SOME IMPORTANT BOOKS ON EDUCATION

The School and Society. By JOHN DEWEY. (Third edition.) Supplemented by a statement of the Laboratory School of the University of Chicago. 130 pp., 12mo, cloth. \$1.00.

The Prospects of the Small College. By PRESIDENT WILLIAM R. HARPER. 50 pp., 12mo, paper. Net, \$0.25.

Report of the Educational Commission of the City of Chicago. The commission was appointed by HON. CARTER H. HARRISON, January 19, 1898, and the report is edited by PRESIDENT WILLIAM R. HARPER. (Second edition.) 250 pp., royal 8vo, paper. Net, \$1.00.

The Education of Business-Men. A View of the Organization and Courses of Study in Commercial High Schools of Europe. By EDMUND J. JAMES. 232 pp., 8vo, paper. Net, \$0.50.

The Philosophy of the Humanities. By THOMAS FITZ-HUGH. 63 pp., royal 8vo, paper. Net, \$0.50.

FOR SALE BY BOOKDEALERS OR BY THE PUBLISHERS
THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois

"A CONTRIBUTION TO THE TEACHING OF ENGLISH"

COMPOSITION AND RHETORIC

Based on Literary Models. By ROSE M. KAVANA,
Teacher of English in the Medill High School, Chicago,
and ARTHUR BEATTY, PH.D., *Instructor in English in
the University of Wisconsin.* Cloth, 423 pages; with
18 reproductions of famous paintings in sepia.
Price, \$1.00.

This book presents a new and valuable idea in what it calls the *Studio Method*. As the artist analyzes his model before attempting his own composition, so the student of English is made to analyze certain literary models and then directed in his own composition. The student's work is made the basis of the instruction he receives. It is a literary rather than a rhetorical method and aims at stimulating an interest in good workmanship. The book covers the first three years' work in high schools, academies, and normal schools. (*Just ready.*)

If you are a teacher of English we should like to make you acquainted with it.

RAND, McNALLY & COMPANY

CHICAGO

NEW YORK

LONDON

Hundreds of Teachers Have Annually Been Benefited

The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager
378-388 Wabash Avenue - CHICAGO

SEND FOR "OUR PLATFORM"

The James F. McCullough Teachers' Agency

Fine Arts Building, Chicago

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—
Try McCullough.

School Books in a hurry

And at New York prices, singly or by the dozen, may be obtained *second-hand or new*, by any boy or girl in the remotest hamlet, or any teacher or official anywhere, and

Delivery prepaid

Brand new, complete alphabetical catalogue, *free*, of school books of *all* publishers, if you mention this ad.

HINDS & NOBLE

Cooper Institute New York City

HARVARD UNIVERSITY

The Summer School of Arts and Sciences

offers 83 courses of instruction in Sanskrit, Greek, Latin, English, German, French, Spanish, Russian, Public Speaking, Economics, Psychology, Education, Theory of Design, Drawing, Music, Mathematics, Surveying, Shopwork, Physics, Chemistry, Botany, Geology, Geography, and Physical Education. The courses are designed for teachers, but are open to all qualified men and women.

July 6 to August 14, 1903

Reduced railway rates on account of the meeting of the National Educational Association in Boston. The announcement and detailed information will be sent on application to J. L. LOVE, 16 University Hall, Cambridge, Mass.

N. S. SHALER, Chairman

The Journals of the University of Chicago

BEING THE DESCRIPTIVE LIST OF ONE WEEKLY, FIVE MONTHLY, ONE BI-MONTHLY, THREE QUARTERLY, AND ONE SEMI-QUARTERLY PUBLICATIONS ❦ ❦ ❦

THE BIBLICAL WORLD

Edited by President W. R. HARPER. A popular illustrated monthly magazine. Subscription price, in the United States, \$5.00 a year; foreign, \$6.50; single copies, 30 cents.

The *Biblical World* is devoted exclusively to biblical study, and so edited and illustrated as to afford the greatest aid to the busy clergyman, the progressive Sunday-school teacher, and the thinking layman.

THE SCHOOL REVIEW

Edited by The University of Chicago School of Education, JOHN DEWEY, Director. GEORGE H. LOCKE, Managing Editor. Published monthly, except in July and August. Subscription price, in the United States, \$1.50 a year; foreign, \$2.00; single copies, 30 cents.

So adequately has the *School Review* served the interests of high-school and academy work that it has come to be recognized as the official organ of secondary education in the United States. It is devoted exclusively to this field, is progressive, practical, and helpful, and is indispensable to every teacher.

THE BOTANICAL GAZETTE

Edited by JOHN M. COULTER. Published monthly, with illustrations. Subscription price, in the United States, \$4.00 a year; foreign, \$4.50; single copies, 40 cents.

The *Botanical Gazette* is an illustrated monthly journal devoted to botany in its widest sense. For more than twenty years it has been the representative American journal of botany, containing contributions from the leading botanists of America and Europe.

THE AMERICAN JOURNAL OF SOCIOLOGY

Edited by ALBION W. SMALL. Published bi-monthly, with illustrations. Subscription price, in the United States, \$2.00 a year; foreign, \$2.50; single copies, 35 cents.

The special aim of the *American Journal of Sociology* is to show that the "social problem" is both many problems and one problem. It has already made itself indispensable to Americans who are trying to keep informed about the general tendencies in the rapidly changing field of sociology.

THE AMERICAN JOURNAL OF SEMITIC LANGUAGES AND LITERATURES

Edited by President WILLIAM R. HARPER. Published quarterly. Subscription price, in the United States, \$3.00 a year; foreign, \$3.25; single copies, 75 cents.

The object of this journal is to encourage the study of the Semitic languages and literatures, to furnish information concerning the work of Semitic students at home and abroad, and to act as a medium for the publication of scientific contributions in those departments. Articles are published in German, French, and Latin, as well as in English.

THE JOURNAL OF GEOLOGY

Edited by T. C. CHAMBERLIN. Published semi-quarterly, with illustrations. Subscription price, in the United States, \$3.00 a year; foreign, \$3.50; single copies, 50 cents.

Devoted to the interests of geology and the allied sciences, and contains articles covering a wide range of subjects. Adapted to young geologists, advanced students, and teachers.

THE ASTROPHYSICAL JOURNAL

Edited by GEORGE E. HALE and EDWIN B. FROST. Published monthly, except in February and August, with illustrations. Subscription price, in the United States, \$4.00 a year; foreign, \$4.50; single copies, 50 cents.

An international review of spectroscopy and astronomical physics. Invaluable to all who are interested in astronomy and astrophysics.

THE JOURNAL OF POLITICAL ECONOMY

Edited by J. LAURENCE LAUGHLIN. Published quarterly. Subscription price, in the United States, \$3.00 a year; foreign, \$3.40; single copies, 75 cents.

This publication promotes the scientific treatment of problems in practical economics, and also contains contributions on topics of theoretical and speculative interest.

THE AMERICAN JOURNAL OF THEOLOGY

Edited by the Divinity Faculty of the University of Chicago. Published quarterly. Subscription price, in the United States, \$3.00 a year; foreign, \$3.50; single copies, 75 cents.

The only journal in the world so catholic in its scope as to cover the entire field of modern investigation and research in all the different lines of theological thought represented by special fields and particular schools.

THE ELEMENTARY SCHOOL TEACHER

Edited by The University of Chicago School of Education, JOHN DEWEY, Director. MRS. ELLA F. YOUNG, Managing Editor. Published monthly, except in August and September. Subscription price, in the United States, \$1.50 a year; foreign, \$2.00; single copies, 30 cents.

A monthly periodical for teachers, principals, and superintendents. Each number contains practical plans for teaching in every grade from the kindergarten through the eight grades and the pedagogic schools.

THE UNIVERSITY RECORD

Edited by the Recorder of the University. Published monthly. Yearly subscription, \$1.00; single copies, 10 cents.

The *University Record* is the official monthly publication of the University of Chicago.

SAMPLE COPIES FREE ON REQUEST. ADDRESS
THE UNIVERSITY OF CHICAGO
PRESS ❦ CHICAGO, ILLINOIS

NOTABLE NEW BOOKS

THE MORSE READERS

Practical Graded Text, 5 Books

By THOS. M. BALLIET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Sure to give satisfaction.

MORSE'S EDUCATIONAL SYSTEM and the **NATURAL MOVEMENT METHOD COPY BOOKS** (Medial.) Many original features but thoroughly practical. 20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material. Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

THE MORSE COMPANY

8 Beacon St., BOSTON

96 Fifth Ave., NEW YORK

195 Wabash Ave., CHICAGO

For Use in Secondary Schools

History

| | |
|---|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England | 1.25 |
| Botstford—History of Greece | 1.10 |
| Botstford—History of Rome | 1.10 |
| Adams—Medieval and Modern History | 1.10 |
| Adams—Growth of French Nation | 1.25 |
| Adams—European History | 1.40 |

Science

| | |
|---------------------------------------|------|
| Bailey—Elementary Botany | 1.10 |
| Davenport—Introduction to Zoology | 1.10 |
| Crow—Elements of Physics | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography | 1.40 |
| Tarr—Elementary Geology | 1.40 |

Mathematics

| | |
|---|------|
| Fisher & Schwatt—Secondary Algebra | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond | .90 |
| Holgate—Elementary Geometry | 1.10 |

English

| | |
|---|------|
| Carpenter—Rhetoric, First High-School Course | .60 |
| Carpenter—Rhetoric, Second High School Course | .50 |
| Lewis—Introduction to the Study of Literature | 1.00 |
| Carpenter—Principles of English Grammar | .75 |
| Pocket English and American Classics (34 volumes ready), each | .25 |

The Macmillan Company

378-388 WABASH AVE., CHICAGO

New York Boston Atlanta San Francisco

When calling please ask for Mr. Grant

Save on Books

Whenever you need any book, or any information about books, write to me and you will receive prompt attention and low prices.

My Stock of Books

in all departments of literature is very complete.

An Assortment of Catalogues

and special slips of books at reduced prices sent for a 10-cent stamp.

F. E. GRANT

23 West Forty-Second Street, New York

Mention this advertisement and receive a discount.

Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers The University of Chicago Press, Chicago, Illinois

**BOOKSELLERS
STATIONERS**

**A. C. McCLURG
& COMPANY**

**Standard
Miscellaneous
Illustrated and
Fine Bound
Gift Books
Wedding and
Reception
Invitations and
Visiting Cards
Engraved**

**A.C.McCLURG & CO.
215-221 Wabash Av., CHICAGO**

**PUBLISHERS
IMPORTERS**

"The Greatest Spoken Thought of the Nineteenth Century"

MODERN ELOQUENCE

Hon. Thomas B. Reed
Editor-in-Chief

ASSOCIATE EDITORS

Hon. Justin McCarthy
Member of English Parliament.

Rossiter Johnson
Author and Litterateur.

Albert Ellery Bergh
Expert Collaborator.

COMMITTEE OF SELECTION

Edward Everett Hale
Author of "The Man Without a Country."

Jonathan P. Dolliver
U. S. Senator from Iowa.

John B. Gordon
Former U. S. Senator from Georgia.

Nathan Haskell Dole
Associate Editor
"International Library of Famous Literature."

James B. Pond
Manager Lecture Bureau,
Author of "Eccentricities of Genius."

George MacLean Harper
Professor of English Literature,
Princeton University.

Lorenzo Sears
Professor of English Literature,
Brown University.

Edwin M. Bacon
Former Editor "Boston Advertiser."

F. Cunliffe Owen
Member Editorial Staff,
"New York Tribune."

J. Walker McSpadden
Managing Editor, "Edition Royale, of Balzac's Works."

Marcus Benjamin
Editor, National Museum,
Washington, D. C.

Truman A. DeWeese
Member Editorial Staff,
"Chicago Times-Herald."

William W. Matos
Member Editorial Staff,
"Philadelphia Evening Telegraph."

Champ Clark
Member House of Representatives
from Missouri.

Clark Howell
Editor, "Atlanta Constitution."



Ex-Speaker Thomas B. Reed's Splendid Library of the Best After-Dinner Speeches, Classic and Popular Lectures, Famous Addresses, Stories, etc., in ten elegant volumes, superbly illustrated with fine photogravures and color plates.

THE LIBRARY OF "MODERN ELOQUENCE"

Stands without a peer. Nothing like it was ever attempted before. Edited by one of the greatest of Modern Leaders of Men, ex-Speaker Thomas B. Reed, (assisted by a corps of editors famous wherever the language is heard), "Modern Eloquence" is the masterpiece of one who has lived close to those who made the history of our times.

In these volumes the reader runs the whole gamut of eloquence, from laughter to tears, from paths to ridicule; keen satire is mingled with unctuous humor; the strong, trenchant utterance of action with the droll fancies of the humorist.

We hear the applause and the laughter, we surrender to the spell of the words; we can feel the tense silence as the speaker mounts in his sublimest flights, then hear the outburst of applause as the audience catches the speaker at his climax.

One sits at the board where the greatest after-dinner orators, wits and humorists are at their best. One listens to those master-minds who from the platform have swayed multitudes and held men's minds captive by the magic of their words.

These are the books for the home — for an idle hour — for the days and nights of preparation — for an evening's entertainment — for the future. They are filled with living thoughts for living men.

Here DEPEW puts you off your guard with a laugh, before his keen blade, with a quick thrust, drives home the truth. Here may be seen something of that marvelous power and poise by which BEECHER, single-handed and single-voiced, conquered and calmed the howling mobs in English halls, and won from hostile crowds a hearing for the Union cause. Here the reader, as he feels the thrill of GRADY'S immortal words on "The New South," realizes something of the wondrous change of national feeling wrought by "the velvet splendor of that mellow tongue," and how it was that by that banquet speech in a single night the speaker "leaped into national fame."

Here such men as GLADSTONE and CHOATE, EVARTS and CURTIS, HILLIS and GOUGH reveal in their words something of the secret which every aspiring man longs to penetrate — the secret of power over the minds of men.

A
FINE
PORTFOLIO
SENT FREE

JOHN D. MORRIS
& CO.,
1201 Chestnut St.,
Philadelphia.



CUT OFF HERE

GENTLEMEN: Referring to your advertisement of Hon. Thos. B. Reed's Library of Modern Eloquence in the Publications of the University of Chicago Press, I will be pleased to receive portfolio of sample pages, photogravures and chromatic plates; also full particulars regarding bindings, prices, etc.

Name.....

Business.....

Street.....

City and State.....

[O-86]

**JOHN D. MORRIS
& COMPANY**

PUBLISHERS

PHILADELPHIA



**THE
PRUDENTIAL
HAS THE
STRENGTH OF
GIBRALTAR**

WISE MEN FROM THE EAST

Brought Valuable Gifts to Express
their Devotion. Wise Men of To-day Regard

LIFE INSURANCE

in

THE PRUDENTIAL

As one of the Most Valuable Gifts
they can Bestow on their Families.

THE PRUDENTIAL INSURANCE CO. OF AMERICA

John F. Dryden,
President.

Write for Information,
Dept. 25

Home Office,
Newark, N. J.

THE ELEMENTARY SCHOOL TEACHER

JANUARY, 1903

THE PLACE OF THE KINDERGARTEN.¹

THE question of the relation of the kindergarten work to the rest of the child's school life is a question shortly answered if we put it directly. We have only to quote from Froebel's own words whenever he speaks of the inner need of continuity. Indeed, the study of Froebel's life and work seems clearly to show that his interest in the young child was developed gradually by working backward through the successive stages of advancement. This is an experience not peculiar to Froebel, but common alike to educators and to the average grown person. When Froebel had achieved this interest in the period of early childhood, or, as he puts it, in the early life of man, he worked out the forms in detail for the presentation of ideas for this period. His life was too short for him to carry the process throughout the period of adolescence and human growth. It is my purpose, therefore, to assume in this discussion that Froebel's interest in education was such that he would have evolved ultimately as fully formulated a scheme for the whole process of development as he has left for the use of the young child; that throughout this he would have insisted upon his great principle of inner development and continuity, and that consequently in any use of his kindergarten system one must always remember that she is employing a portion only of the plan of a master. She must therefore ask herself, in the application of each part, what relation that part bears to everything which is to follow in the life of the particular child before her.

¹ This paper was prepared for a general introduction to the subject, "What is the Relation of the Kindergarten Work to the Whole Education of the Child?" and read before the Kindergarten Club of Chicago, October, 1902.

So much for the statement of our question, which thus stated answers itself, and brings us thereby to a consideration of any and every element in the constitution of the scheme of education. It is little wonder that we hesitate to open gates which let loose a flood of questions such as might sweep away the answers in which we rest and work. It seems better almost to forget the future, that great source of ideas and answers, whatever mysteries of heaven may be reflected from its surface. To save us from this possible conclusion of humdrum hopelessness, we have in our midst, and growing all the time from the work which holds and drives us, that element of eternity for which we work—the child himself. Through him we learn that if we flee from the impracticable future, 'tis he himself will bring us to it. If we weary with questioning, 'tis he who will heap up interrogations until we must clear them away. We are led on out of our tired and time-worn notions to learn not the lesson of the thing we see, but the lesson of the thing that is, of that which is to be, and to live by means of the tiny voice as the flower lives by the dust of the breeze.

I shall assume, then, the validity of the child himself as the embodiment and defense of this continuity of development, as the treasure-house of human welfare in which we should place only that of which we cannot tire; that for which, if need be, every other possession be given up. With this assumption in mind, we face the practical question in the minds of us all, the question before which I pause: What are we doing to help or to hinder the development of this child? What ideas are we able to interpret for him? What material to mold are we giving him? What end do we help him to attain? Once more, it is only the memory of his questions which can induce us to face any of the possibilities we thus open up to ourselves. I shall ask you to consider two phases of this general question which have of late most impressed themselves upon kindergarten workers. The first is: How far do the present kindergarten method and teacher relate themselves to what has preceded the kindergarten in the life of the child? The second is very like the first: How far can the prescribed gifts and occupations relate to what is to follow in the life of the child?

While Froebel, as do all of us, reached the mind of the child by a progressive working back from the man, it is exceedingly interesting to contrast this process with the development of maternity. Since it is in some contrast of experiences that the first and radical break in the educational process seems to originate and persist, for this reason the frequent and even continual retracing of the psychologic steps in individual history is never wearisome. The average mother being young and inexperienced is little aware of the power and opportunities presented to her. She is largely occupied of necessity in keeping the child clean and warm and fed; her physical strength is not normal, and a certain morbid and one-sided emotional state has probably been induced by her unusual exclusion from social stimuli. Taking the mentor of his being thus at a disadvantage, the child begins his phenomenal career, getting ahead in the world at a rate too rapid for the mother to realize, still less to compete with. As Froebel shows again and again, we cannot give nor prevent experience by telling, and one can scarcely believe that even with the most careful preparation the young mother could be made sufficiently aware of the progress which she alone is to witness intimately, to keep her in conscious control of all the manifestations of the growing soul and body. Whether or not she could, she does not as yet acquire such consciousness in any degree of clearness. She is, if a good mother, necessarily content with that larger knowledge and feeling that completely satisfy her in the healthy child, the feeling of general well-being and continuing interest in watching the evolution of the highest ideals of human love and intelligence. Gradually and almost unconsciously the principles which she laid down in advance for her guidance fall into disuse. They do not fit the case. The young individual before her ignores or even resents the presence of her ideals, and to her surprise she sees them becoming mere ghosts from a past which she herself is relinquishing. The pleasant memories of psychologic or kindergarten theories, even ethical standards, continually merge into daily activities. When she has time to stop and think, she wonders, and often with no answer to her questions.

The curiosity of the young one is meantime penetrating to unexpected regions, and all at once he has his own environment, his personality. I feel that no disrespect is shown to motherhood in saying that the first break in education occurs at this point, if we can name a point at which growth reveals itself. His conscious "environment" seems to exist all at once, to the onlooker, but not so to the baby. He has by a power long since forgotten by the grown-up, constructed for himself a consciousness no less complete and entire than that of the larger person, although it is less comprehensive in its scope. Now, the most that can be done by the mother is to regulate within her own boundary the tools for this great creation. Her field is measured by the length of her arm, at the outside by the length of her vision. It is the period when the child needs to be let grow. As for the spiritual element in her mind, the young one has done what he likes with such plastic stuff. The best she can do is to look ahead and try to see whither he will carry his new possessions, and whether she can follow. The time has not come for the younger mind to look back for her. There comes a call like that of old, "Let my people go;" and she obeys.

Am I mistaken in thinking that it was the preparation for this departure into a new world that Froebel desired? No one will, I believe, deny that the meaning of the "Mother Plays" is simply this, that they are an attempt to simplify and to clarify this passing out from the small center of the narrow and intense life of the family where the instinct and the emotions are the guides to action, into the larger and more diffused activities which demand intellectual control. The time when instinct and simple emotion have control in human life is short, but curiously enough it is during this time that intelligence has its most rapid growth; in a sense, its most important growth. Intellectual ends are set up independently during this formative period. The child chooses what he likes and dislikes on lines of his own selection. No amount of either indulgence or correction can do away with this situation. Rarely, if ever, is the mother able to see fully and to account for its beginnings. She

is puzzled by an opposition whose origin she knows not, an independence along lines which she did not lay down, whose direction she cannot see. Because her intellectual confusion over the new situation is so great, and also because the present importance of the opposition is so slight, she probably relegates the whole matter to the background of her consciousness, and relies upon the affectional and inherent ground of relation to her child. It is conceivable that education may reach a point in the future when the unity of intellectual life of the child and the mother will be as unbroken as is the affection developed from day to day. It is hardly possible to say, however, that that ideal of education is often seen at the end of the first four years of life. Teachers will be as ready to grant that point as will mothers to see the next gap which we have to bridge.

To what then shall we trust if we are to accept average conditions, and make the best of them? Simply to a certain selective power in the young one himself, remembering that we have not as yet defined that power, and, further, to our own faith in the instinctive control, which does as we have seen transcend any external barriers which may be put in its way.

The first act of choice, the break which it causes, have given an experience consequent upon independent activity to the young human being when first he comes to school. He has the habit already formed of judging for himself. He has a method of thinking, as inevitably his own as was that of the mother, or that of other care-taker who made him see his own way by compelling him to react against her way. Supposing now the teacher into whose hands he passes to be of the best sort, but that only imperfect, what sympathy and what conflict are we likely to find? First of all, of course, a love for the child and a belief in his aims. Also a preparation for understanding the child reached by a process inverse to that of the mother's. Other things being equal, a less enriched personality from the standpoint of human contact and evolution. We find, on the other hand, a finer observation of the idiosyncrasies and a truer sense of the social value of the child, and of the eliminations and enrichments consequent upon his placing in a new society.

As a matter of course, a teacher must begin by choosing between the many points she may find in her own and the general experience which will appeal to and be understood by her new class of children, for we now have children instead of the child to consider. It is not, therefore, the teacher alone who is to instruct. She has also to face the problem of what the children in the class are to learn from each other. Naturally it is difficult to make a choice among the many points of contact possible between the teacher and the child, between her consciousness of what is to come and the whole power the child has already gained in self-expression. That which the mother has learned from day to day, and night to night, in every motion and feeling of a being most sympathetic to her own, the teacher must now presuppose and use, however different may have been her own habits to those of the mother.

At such a point we might again give up discouraged, if it were not that necessity requires us to follow the child. To teach a child if he were really unknown would be a sacrilege, impossible to anyone in her right mind. If the teacher can follow, there is a break no more impossible than the one between the child and the mother. If the teacher assumes a knowledge of the child, the case is lost—there begins at once that thwarting of the everlasting right which we call arrested development. The helplessness of the young one is as great as the power of the teacher. There is no situation in life more important or more delicate than that period during which the child is discovering for himself his new relationship, as he surely will if he does not become hopelessly confused. This discovery must involve every intellectual process in its establishment, and the teacher, more than anyone else, originates these processes, whether she knows it or not. In the last analysis it is impossible for the teacher to imitate merely, simply to pass on a lesson or method devised by another; just as impossible as for her to assume that any one child is exactly like any other. The child is always ready to help, to idealize anything she may do or give, to create, but she may be sure that in some way or other he will discover her own method; if not directly

and because she gives it to him, then in spite of her. Because she is one, and the children are many, because of the greater flexibility and naïveté of the child-mind, the child is likely to have an even better practical appreciation of the teacher's ways than she has of his. He will quickly see whether she herself has an inner knowledge of all that she gives to him, and whether his own knowledge relates to her method of presentation. He will assert himself against the dogmatism of mere assertion. If he is strong enough to react in spite of her failure to intelligize a lesson, he will in time create a new method of his own; and the split between teacher and child will be concealed under social forms, while he goes his way as surely as she goes hers, and nobody any the wiser. If, on the other hand, he does not possess a vigorous intellectuality, a repression deeper than manners will ensue, a resentment, a beginning of bitterness and pessimism, which is the inevitable consequence of a loss of faith in ideas. Both types of children are conscious, to a degree, of the fact that the teacher had not faith enough herself in the ideas she is trying to transmit to make them a common meeting-ground in which she and they become one.

Starting with obvious differences resulting from apparent conditions of life we may run over a scale of intervals scarcely distinguishable, but each one distinct in itself and forever sounding itself in its search for harmony. Each note the teacher must hear and attune. She cannot know nor foresee these differences, but she must always be open to finding them out. If she asks how she can find them out, the value of the reply is so meager as not to be worth including in the situation. The child will show her, her sympathy will show her, she will know how; and if she does not, she should seek some other vocation in life.

Doubtless we could, any of us, fill a book with the things of all sorts which children experience not included in the cataloguing of the so-called periods of development. The members of a family that live in one room all take for granted a knowledge of each other which, if gained by the family which inhabits a mansion, is concealed as a forbidden thing. Similar is the contrast between the city and country child regarding the phases and circumstances of external nature.

Perhaps we may state the danger in this way: We must not underestimate the intelligence of the child—by intelligence meaning his training and whatever power he has acquired in judging and discriminating—in short, his experience: for he has an experience all his own, and he will not tell you what it is, and no one knows its full nature. This does not mean that he has a new kind of mental activity, like a third leg to help him walk, but simply that he has already acquired that individualizing of consciousness which is as distinct as is your own. He knows what he knows.

If he has counted and measured with his pace the spots on every carpet in his father's house, we must be careful how we put him before a table and instruct him in the relation of one and one, one square and one square, two squares and two squares; he may be bored and feel slighted. It cannot be repeated too often that children have their own method, their own mental ways at four years of age. It is the business of the teacher to find out these ways, and through them to lead the child to other ways. It may be possible to wrong a child by trying to give him by means of a gift, a knowledge of the three dimensions of space of which he gained complete control at the age of nine or twelve months by going up and down stairs, or by climbing in and out of a high chair. Only a teacher who has watched closely has seen the two-year-old baby feeling of the door casings, the chairs, whatever he can reach, telling stories to himself about what he finds out, getting a knowledge of materials, organizing that knowledge, all in a way we do not know and never can know except as we learn it from the child. The teacher who ignores the possibility of that knowledge, who forgets any experience gained from the days of the nursery world, is assuredly doing harm through the gifts and their use, as the teachers of our grandmothers did harm with the book. She is turning the energy which the child should use, and would use if left to himself, in gaining new ideas, into the monotony of mere repetition. Whether by means of the fight on the corner, by the figures on the wall paper, by the bouncing of his ball, by the happy combinations made in play with his brothers

and sisters, the four-year-old has begun his education. He has viewed and judged situations; and taken altogether these situations for the average teacher are of endless variety. She must then make use of the selective power which we trust she has not lost, and at once set up a common working principle with the child. She classifies, not because her intelligence is different in its nature from the intelligence of the pupil, for we are all learners, but because it is wider in its scope, and because for her own convenience, and the convenience of all the children, she must choose and eliminate.

To illustrate this point the question so frequently discussed in the kindergarten plans for the last few years will serve. I refer to the question regarding the kinds of material and the resultant methods of using them. Shall they be free, so-called, or organized? Such a question appears to be simple and natural, rather forcing itself on every teacher who goes in thought beyond the lesson form. It is impossible, in considering the world over against the child, not to consider the child as over against the world, his coming world. Immediately, then, we face the question as to the qualities of this world, and, willing or unwilling, we make at once the large and easy division between nature and art, between free and organized material. What shall we say regarding the two great possibilities opening here? Shall the teacher walk into the open air, and say to her pupil: "Behold nature, her plastic and variable surfaces are yours to mold, to break, to define." Or shall she lead the child quietly to a sheltered spot and say: "Here are the constructions which history records; the forms which you are to improve, the manifestations of mind; these you can further analyze and increase and enrich." Since she must choose, which of these two shall it be? The child is nature, he is soft and pliable, and therefore he accords with nature and inclines to begin at once there without the telling. But a short trial shows her that he has a long journey to retrace before he sees the source of his things. He was busy setting up a line of operations all his own during those first months when he strengthened his legs against the clothes, and taught his eyes and his feet to follow the lines

of the casings and carpets, and his hand to build castles and towers with wood, and to feel the flying ball.

Is she to conclude from this habit which amounts often to a preference for mathematically constructed objects, that these objects alone will satisfy? Or is she even to conclude that such objects are to be the means through which she is to lead her charge back to nature? No wonder a teacher is tempted to conclude that by beginning at the standpoint of the present achievement, that is of the finished result, she may go back and thread the labyrinth, learn the path through which man has walked. Scarcely, however, has she reached this conclusion when she finds the limit of the youthful interest in the line, the block, the form. It becomes evident that the elusive being before her cares nothing for what has been, and therefore is; he suddenly demands the whole formless mass of matter to reconstruct for himself. So strong is the evidence in this latter direction that we have plans for kindergarten instruction based almost exclusively on the idea that simple nature accords fully with the child's attitude. In this connection we have the authority of the late Colonel Parker: "It seems logical that real or natural forms should be studied first, that they are more adapted to the crude concepts of the child."

Thus appears to me to have arisen quite naturally and from living conditions, that difference of opinion, apparently so wide, as to the two points of approach to the young mind. But why regard the distance between these two as so great or so fixed? In the life of any person of school age, both these sorts of experiences already exist and persist. Form has been already defined and applied. Nature has been sought and known and loved and made over. What more can we need or say than that the method must and certainly does, whether we wish it or not, lie in the proper adjustment of these two lines of approach? And further, that the propriety of the adjustment must be found by the teacher herself from the experience of the child. For this thing is sure to happen. The pupil will seek and in some way find that which his world and mind demand. If he is restricted as to material, or so-called subject-matter, in his class, he will instinctively and

energetically find what he there misses. Missing further the assistance he needs, that which he finds for himself will often remain to him in large measure unused and confused. There is no doubt we may justly make use of certain habits as far as they can be defined, and assume a common experience to which and from which to work. If the mind is so civilized as naturally to lend itself to the contemplation of mathematically constructed materials, no one can question the right to use that inherent power of adaptation provided it is used consecutively and evenly. If also the religious and philosophic habits are so settled that symbolic interpretation of natural forces and forms is spontaneous, the same right exists for making use of these habits. If the child, however, is repeating a phase of human development which demands for its essential satisfaction the crude and plastic matter of which he is a part, in so far are we not justified in asking him to use or interpret for our own purposes the forms and ideas which have resulted from the slow sophistication of adult life? Any result from a lesson conceived on such a false basis must necessarily be unrelated and harmful to the balance in the mental equipment of the child. The effects of such unrelated activity and struggle become more and more evident as the years go on, but the kindergarten teacher can ill afford to believe that this danger does not exist at the very beginning of school life.

To quote again from Froebel: "We teach our children without having aroused an inner want for the instruction, and after having repressed everything that was previously in the child." The young child enters the school with this inner want either encouraged by fostering, or by reaction to some deficiency in the family life. Rarely has it been crushed in a child before the kindergarten age. It is obviously, then, the first duty of the kindergarten teacher in looking ahead to see whither she and her charge are tending; to look also without ceasing upon every impress of the past as an index of the nature of the child, to be used and modified consistently with the motive of their origin and of their aims.

The second question which pertains to the continuance of the

school life cannot yet have a definite answer. The idea involved in Froebel's plea for German ideas, and for German education would seem to have great value in the country where individuality has acquired more rather than less force than it had in Germany. To continue and to expand the home training one must understand it in its endless variations. In order to continue and expand the kindergarten training, it must by its nature have related to the continuous life and wholeness of the child. Perhaps it is not within the scope of this introduction to the subject of the year to do more than state this question. To analyze the method of the kindergarten from the standpoint of higher criticism is doubtless your aim in proposing such a subject. This requires a thoughtful study, not a sudden throwing aside of forms which one may conclude do not express fully or justly an ideal of life or freedom in which she herself may have entire faith. If one has faith in the principle of growth, one does not continuously pull up by the roots, but rather trusts to the safe and slow manifestations of change as a basis for further change. Such changes can be assured only by introducing proper conditions of growth, and for these conditions eternal vigilance and effort are required. Before us at each step are two temptations: reaction, immediate self-assertion or mere conformity. It is easy to see and find fault with the effects of the former in our so-called new education at the present time. It is easy to see also that, if all life and education were free and spontaneous, conformity would not mean repression.

"Our speech," says Froebel, "is like the book out of which we have learned it; we cannot give outward form to what we say." The history of the kindergarten for the last thirty years in this country appears to verify certain criticisms which Froebel made on German education in his time. The adoption of forms and methods foreign to the German people was continually deplored by Froebel. "Shall we never cease stamping our children like coins and adorning them with foreign inscriptions?" he says. It is not presumable in making these criticisms he wished to assert that all development must come

from self-made principles and from local conditions. In all life, as well as in all learning, the juices of the past are feeding new growth. Whatever has filtered through the generations, and been assimilated, and lives in the present, is ours, no matter whence it comes. It is the essence, the idea, the underlying method, which thus becomes universal, and is transmissible from century to century. At present I venture to say we have more insight both by inheritance and by nature than art, more philosophy than power to shape; more material than we have learned to control. Doubtless the enigma of art will gradually be read and a formulation of educational principles, more simple and more universal than anything experienced up to this time, will follow. We cannot, however, be safe in assuming that the imperfect formulation peculiar to any time and any people is, or will ever become, universal in its application. The changes made in the scheme of kindergarten work up to the present time have been made because some details of the scheme did not relate to the needs of the child. However appealing and inspiring the metaphysics lying behind the gifts and occupations, we have, as a matter of fact, gradually found it desirable to simplify and even to discard many of the exercises which were given to children in the early days of the kindergarten. Froebel was continually modifying these exercises during his lifetime, and it seems only consistent with his principle to expect further modifications in a country so different from his. It is not too much to claim that the complete form of education must be the work of the artist as well as of the philosopher. The universal principle lies not in something remote from experience, but rather in the adaptation of the form of expression to the common activities of every day. We do not need to worry about the preservation of great truths. Being the greatest forces in the world, they are thus beyond the need of temporary support. The clothing in which we dress them is as likely to conceal their loveliness as to reveal it.

Suppose in the question before us, we humbly follow the logic as best we may of Froebel himself, do we not see at once that the movement of a little mind, in the first years of school life, must be steady in the direction of his future, simple in rela-

tion to surroundings and precedence, spontaneously arising from activities common about him? We place the child in the school to develop, not to isolate him socially. His intelligence is by no means a hothouse plant to be forced to a profusion of blossoms too delicate for the winds of every day. His intelligence is experience, and we can enlarge it, give better means of enriching it, nothing more.

Parallel with the danger of underestimating the power of the young child, there runs all through the years of school the danger of overestimating his ability. The reason for dropping much of the minutiae and of the symbolism of the German kindergarten has been that these were too remote. They presuppose a state of mind more sophisticated than seems to be found in the average American child. The mistake of taking from the future is not different in kind from that of robbing the past. In fact one effort on the part of the teacher may often accomplish both of these results, and leave the struggling mind either in a state of convulsive irritation, or in one of apathy. A few such efforts generally give to the pupil the power of absenting himself from the present with a nicety and skill which show judgment in an unexpected direction. The teacher who filled a paper on number work in developing a method of teaching the number one to seven-year-old children was belittling experience with number at first hand. She was, at the same time, creating an abstraction great enough and misty enough to frighten away any ideas from any child. She was assuming in this immature mind an interest in, and a power over, the metaphysical phases of number concept which put her entirely outside the world in which the child lives. Any such lesson must be harmful to the balance of the childish mind. It is putting the hammer of the giant in his tiny hand and expecting him to work. It is at the same time asking him to discount his previous acquirements in such a way as to make him distrust his experience as a whole. It is drawing on the future, putting in his way material for which he is not ripe, and is sure to bring on that attitude of indifference which is characteristic of that unfortunate being known as the *blasé* kindergarten child.

If we assume the power of re-starting a child in his intellectual method, we at the same time, in most cases, assume that into this fresh start the child will put a content heretofore unthought by himself. Taking this to be the honest purpose of the teacher, if she annihilates what natural means of support the little one has already gained, let us ask ourselves just what happens when we introduce a new method to one not yet fully conscious of his first way of thinking. The first step in the process is obviously the effort on the part of the child to discount his entire consciousness. Concrete and simple as that may be, his consciousness is his personality. It is what he has seen, felt, touched, smelled, and, to an extent, worked into a whole.

That doctrinaire teaching which interprets the child's thoughts and activities as fragmentary is a mere superficial judgment of some phases of the child's expression. If we call the mental life of the child fragmentary, it is conceivable that we have a right to take out a piece here or a piece there, and put a more beautiful piece into the mosaic. The greater mind thus becomes the only judge of beauty, but the engrafted beauty supposedly soon unites itself and grows a new kind of decoration for the little mind. If, on the other hand, we assume that personality is ever the same in its divine essence; that even the sucking child has its wholeness, and the schoolboy a larger possession, that they add to their world in a way we no longer know, that they are still one each to himself and with himself: if we grant this wholeness of nature to the child, it is logically inconsistent to assume the right to shape for him and to direct for him the materials and motions on which he forms himself, whether these elements of life be spiritual or sensuous. We cannot say that our fragment is not his whole. If we do so, we are not only overestimating his intelligence but discounting his experience and weakening his confidence in himself. We are affronting that wholeness of which he is a legitimate part. We are underestimating an apparently small experience which is his vital and magnetic whole.

From the nature of this subject, and the circumstances, there is no chance here for doing more than to raise questions—a

task at best somewhat unsatisfactory; on the other hand a task which has some encouragement in view of the fact that these questions are brought out at the beginning of a year of discussion of special points of work; of encouragement also, in the fact that this is a body of workers who will find tests and applications for any conclusions arrived at.

If I am wrong in suggesting these two dangers in the use of the kindergarten method, I have only in closing to ask pardon. If, however, there is a possible question as to the relativity to American conditions of this German scheme in all its details, and even in some of its underlying philosophy, we can do no harm by bringing up the question. Whatever is true we know will stand; whatever contradicts, or thwarts, the inner development of the American child, throughout all his school and his world, must go, not because we wish it, but because America is not Germany, our generation is not another; because from the processes of life are continually growing the forces that determine new processes.

If changes are to come, and are coming through the general social pressure, into the work here being discussed there is certainly no one present who desires not to be ready for such changes, and to look into the reasons for their coming.

ALICE C. DEWEY.

THE UNIVERSITY OF CHICAGO
LABORATORY SCHOOL.

HOW AND WHY WE LEARN.

II.

IN my last article I endeavored to make clear that all of the language used to express metaphysical notions is borrowed from the physical world by analogy. For many reasons this is quite unfortunate, though it has its good side. Undoubtedly to primitive man just beginning to realize that he had a mind and that there were ideas and truths not belonging to the physical world, an independent vocabulary for metaphysics would have been impossible. It was only by the use of figures that he could explain in the vaguest way his dim metaphysical notions. The spirit seemed most like wind; the resemblance was closer than any other that he could imagine; and so he called it "spirit."

Out of these analogies grows poetry; but a figure ceases to be poetic when it becomes so common that the image is not brought before the mind by its use; and here comes the danger of metaphysics. We go on using the old figurative language when often the figures have lost their force, and yet we are not entirely free, from the influence of the figures; there is, subconsciously at least, the notion which they suggest. Hence arise so much of the confusion and even the discussion which have marred and marked the field of metaphysics.

When a figure is used in poetry, no one thinks of pursuing it to the bitter end; it suggests a likeness sometimes very faint; it brings a picture before the mind and then passes out, but in metaphysics the figure is pursued as if it were a perfect and exact description. Now, analogy is not identity or even equivalence, and any analogy carried beyond its legitimate application runs into absurdity; particularly is this the case if the analogy be of a lower to a higher object, as of a material fact to a spiritual truth.

It has been pointed out by Dr. Harris and others that the

use of the biological analogy — that is, speaking of the mind in terms of life and of education as a vital process like growth — has its dangers. Of course it has. No one will deny a certain manifest absurdity if the analogy is carried too far.

It would be easy enough for any idiot to make fun of the comparison of a potato nourishing a body and a truth nourishing a mind. We put a potato into the stomach and it ceases to be a potato, is resolved into its elements, enters into new combinations, and ceases to have independent existence; while a truth is always a truth, and when learned is not destroyed. Yet in this seeming absurdity there is a closer and deeper analogy than at first appears.

The potato is not lost, but modified; also a truth is modified by the receiving mind; for, after all, truth is relative. No truth is the same to all minds or even to two minds, the simplest statement of fact producing a different impression upon different minds and different results as to the thing believed or known. That is, in one sense there is no absolute truth, but all truth is analyzed in the alembic of the knowing mind.

You will recall Dr. Holmes's John and Thomas: "When John and Thomas for instance are talking together, it is natural enough that among the six there should be more or less confusion and misapprehension."

Surely from all points of view the analogy of the mind to living things is infinitely more apt than that of the mind to things without life, and to speak of education as a process of growth through nutrition is certainly vastly nearer the truth than to speak of it as a process of filling a receptacle. Indeed, we might almost reverse the analogy. What lives if not the mind? Who can say that there is any life more real than the life of the mind? Do we not all believe that the only real, permanent, and genuine life is spiritual life, and that hence no analogy could be strictly apt except the biological?

It is quite evident that schools have, too many of them, based their work upon the physical analogy. Minds have been treated, not as living organisms, but as vacant receptacles. Consider some of the theories underlying school management.

We say that the children go to school to learn, and so they do. What does learning mean to those who send them to school and to those who teach them? Probably to the majority it means getting knowledge, producing what we commonly call "intelligence." This intelligence includes acquaintance with the common symbols used in reading, writing, and computing. It is a necessary foundation for any real educational work and is recognized as a sort of sub-stratum of all learning.

I will speak a little later of the character of the school which such a view of learning has produced, but it is evident that growth through nutrition does not enter the consideration of those who plan and conduct the common intelligence schools. Here plainly the mind is a receptacle into which is to be put a limited amount of useful information, to be there preserved against a rainy day. Some, still preserving the analogy of the receptacle, would greatly enlarge the body of knowledge, that is, would have a bigger receptacle filled by a greater number of facts.

As stated in the Report of the Committee of Fifteen, the purpose of school-teaching is to acquaint the child with the civilization in which he is to live; that is, to give him larger intelligence. Note carefully that mention is not made of growing into efficiency in this civilization, but merely of charging the mind with facts relating to it; the knowledge is an extraneous thing poured in. There is no suggestion of vital connection. This view, however, of the purpose of learning is a nobler one than the first, for it greatly enlarges the field of knowledge, but it manifestly defies any definition of education which its advocates would accept. It makes the norm the acquisition of knowledge, as if knowledge were a concrete, extraneous something, and not the effect on the mind, the growth of the mind itself. These theories accept unreservedly a physical, as distinct from a biological, analogy, for the educational processes.

There is another somewhat peculiar view of the object of learning, involving also its method, which has been the basis of whole systems of education; it is the so-called disciplinary view. It squints toward the higher biological view, but that is

all. It involves a strange mixture of figures. The mind is something to be trained to act in fixed narrow lines, as monkeys and horses are trained. This is the squint toward the biological view. It is also a tool to be sharpened while knowledge is the whetstone. This is the squint away from the biological view toward materialism.

This notion tends to the disregard of content and to the consideration of disciplinary value alone. It makes no difference what is studied so long as it furnishes discipline. Any old thing will do. The educational system based upon it is mediæval and theological in origin. Its type of efficient reasoning is that acephalous amusement of the schoolmen, the syllogism, through which a man sitting upon a pedestal may learn the world with his eyes shut. Such training should produce at its best a trick animal, at its worst a saw.

There is still another notion of learning involving both its end and its method, and it rests frankly upon the biological analogy. It is that learning is growth through nutrition, and that the business of the school is to furnish nutriment and exercise to the growing mind. It accepts without questioning the thought that truth is relative, and that it does not exist apart from the mind, of which it is a constituent part; that, when a truth is known, two things are modified, the mind and the truth as stated. The mind that knows a new truth can never be the same mind it was before; it has taken new elements into its being which are bound to affect it for good or evil without end. The statement of truth is necessarily modified by the apperceiving mind. No truth is the same in two minds.

Let us consider the kinds of schools that have been produced by these notions of the method and character of learning. The first or common intelligence notion is responsible for the poorest of all our schools, the school of the three R's and the so-called commercial school or the school of the one R, 'rithmetic. These schools represent the bare bones of education; it is scarcely education at all. They represent the misery of starved minds and are the cause of millions of unhappy failures. Occasionally

some lover of the past arises and attempts to apotheosize these schools of the three R's, but the people know better and we are getting away from them as rapidly as possible, though, alas, there are too many of them yet. Such schools, so poverty-stricken, so wholly inadequate for the training of citizens, are the products of the false analogy, the physical as distinguished from the biological.

The larger intelligence notion has caused a distinctly better school because the range of knowledge is broader, its content is richer, and hence the interest of the student is greater. It is the school of verbal culture, in which a great deal is learned about many things. It is at its best in its dealings with history and literature, and at its worst in its study of nature and social life. For it have been written innumerable books about things—nature books; art books; histories of literature dealing carefully with the dates of the births and the deaths of authors; histories of the world, containing long lists of dates and a few facts appended like tails to kites; information books on all subjects; in short, every possible substitute for real knowledge. It is the school of words, words, words.

But as the subjects dealt with are many and those generally recognized as important, it has inevitably led to higher interests than the first-mentioned school. The mind has been "stored" with much useful knowledge, some of which, in spite of the theory, has nourished it. The advocates of this notion of learning have been friends of higher education as represented in high schools and universities. They have believed the false proverb, "Knowledge is power," and followed the falser notion that knowledge is something that can be stuffed into minds. So naturally, the more stuffing, the more power. It follows, therefore, that they must of necessity be advocates of the greater stuffing machines, high schools and colleges; but such schools, whether elementary or most advanced, have fallen short of the true end of education. They have been foes of freedom, of individual initiative, of self-government, of real, as distinguished from verbal, culture.

The second notion of the proper function of knowledge in

education, the disciplinary, is responsible for the "formal discipline" fallacy with all its woes. This theory practically disregards the substance of knowledge presented. If the first is responsible for the grad-grind school, the second is responsible for the dull grind which kills the school, crowds out the discouraged, over-accentuates the law of the survival of the fittest, and deprives the school of joy and spontaneity, by forcing upon the child a law not his own.

This is serious enough in higher education, but in the elementary school it is deadly. Here it stands for the meaningless repetition of words, for rules without understanding, for language without thought, for drill without content, for life with neither interest nor joy. It is bare, barren, and altogether unlovely. On the ethical side it stands for the breaking of the will, the complete nullification of individual initiative; for absolute, unquestioning, unreasoning submission to external authority; for formalism, hypocrisy, spiritual anarchy; for force and violence. Its ruling motive is the convenience of the autocratic demagog, its scepter the rod employed to enforce the *argumentum a posteriori*.

Let it be remembered: the great failure in all these schools is the failure to consider the needs of the children, their internal, real, personal needs; their need for food whereon they may grow, as determining to any extent what should be given them. That this must all be determined from without, witness the Report of the Committee of Fifteen. Each child's own mental state may determine the order in which food shall be presented—soup, fish, meat, salad, dessert, but not to even the slightest degree what the food shall be; for he is not to be nourished, but to be supplied. This is a fatal error.

To be convinced that this statement is not an exaggeration, one needs but to consult any of the standard books on education, not excepting such masterly documents as the Report of the Committee of Ten and the Report of the Committee of Fifteen, especially the latter.

The apperception doctrine of the Herbartians is a partial recognition of the biological nature of education. Of course, the

writers upon the kindergarten all recognize the mind as living. Aside from these two classes of books the standard text-books upon education, and even upon psychology as applied to education, consider but two objects: the imparting useful information, and disciplining the mind—both ends to be secured through the logical application of established laws foreign to the minds of the children to be taught. Wise teachers have always, to a greater or less extent, sometimes half-consciously, recognized individual need. Theories and systems have seldom done so. The fact that each mind has a law of its own by which it grows; that this law cannot be modified by the application of any extraneous force; that no two minds are alike; that only so much of knowledge is really acquired as is apperceived and assimilated, and that the mind must have nutriment adapted to it—these are facts which, in the abstract, must appeal to all thoughtful teachers, but they are ignored in most plans for the organization of schools and the conduct of school education.

In the next article I shall endeavor to show the character of the true school which consistently treats the mind as a growing organism, and education as a process of growth through nutrition and exercise.

C. B. GILBERT.

DEPARTMENT OF PUBLIC INSTRUCTION,
Rochester, N. Y.

MORNING EXERCISES.

IF, as most of us concede, the school of today is a social organization in itself, reaching out and touching other life to which it is closely related at every possible point, and so making its own life fuller and richer, then it would seem that all things tending to unify that organization and to make each individual member of it feel his relation to the whole, and his responsibility for the whole, are vital to the life of that organization. Whatever will put the child into possession of himself and his material, and establish the habit of using these freely with understanding and taste, for the profit and pleasure of the community, must make for the adaptability and power necessary to meet the changed conditions which the larger life of the world and the future are like to lay upon him.

The school is a place where we live together. A large portion of every day is spent there, and the interests of both teacher and children center about it, quite as strongly as about the home. We are one family, and it is essential to our unity, harmony, and success, that we have a time and place for coming together. The table, and the morning and evening prayer serve this purpose in the family. Each grade is isolated by the necessities of the case; each is about its own work. The morning exercise is a common meeting-ground: it is the family altar of the school to which each brings his offerings, his experiences, observations, or the music, literature, and art that delight him. It is the place where all the children meet all the teachers; where all co-operate for the pleasure and well-being of the whole; where all contribute to and share the intellectual and spiritual life of the whole; where all bring their best and choicest experiences in the most attractive shape at their command.

Many of our troubles with other people come because we do not know them, because we are shut up within ourselves, self-centered. Lacking knowledge of the personality, life, and

interests of others, we become selfish, and life becomes dry, flat, and stale as a bone. The coming together in the morning exercises makes us acquainted with each other, brings about a truly friendly feeling, and puts each child and teacher in contact with the personality of other teachers and other children, and with thought and work in other grades and departments. This meeting is a kind of substitute for the old-fashioned district school, where everybody knew everybody else and what he was doing, where the intercourse was not limited to the playground and the recess period. The little children in the district school learned more from contact with the older ones, and from listening to their recitations, than from their own formal lessons, and the older ones got that real insight into the interests of the little children which is apt to develop a helpful protecting sympathy. Community life is usually a restraint upon individual selfishness. Each child learns that the interest and happiness of the whole are his special concern, his individual responsibility; that he is a citizen of the community endowed with the rights and duties of citizenship.

The exercises are necessarily short which makes it imperative that the children, under the direction and with the co-operation of the teacher, plan and organize something that is in itself a unit, that has reasonable proportion and harmony; that is appropriate to the time and place and within their possibilities of expression. This gives steadiness and purpose to the result; resources are brought under the control of the will; the expression is orderly, careful, and accurate. Each child becomes a cause of things, a moving force, a power that makes things happen. He plans, he speaks, he acts for other people; he says and does something that he has reason to believe they will like to hear or see; he is expressing himself with reference to others whom he wishes to make understand him; he feels the influence of others; he feels their power and they feel his; unconsciously he rises to a higher consciousness of himself and his responsibilities. The conditions for cultivating powers of expression are ideal—an audience, and a child with something to tell.

There seems to be an innate desire in the heart of the human being to do things in company with his fellows. The lowest savages have their dances and processions; religion still has its ceremonies and its rites; we still have parades and social gatherings. The morning exercise satisfies this desire in the children. The children have the impulse to imitate or to act out in their own person things that they have seen or imagined, and the orderly meeting every morning gives a dignified opportunity for the satisfying of this impulse. The reducing and controlling of these dramatic manifestations until they become an expression of some phase of life which has been observed are a beginning in artistic production. Indeed, the morning exercise, like all social life, is a great stimulus to artistic expression. The children of the upper grades make a strong demand for dramatic expression of some kind, either through the drama itself, dramatic poetry, or debate. They are interested in the study of character and its development under certain conditions; and the drama, which is a simplified edition of life, gives them a view of what character and life really mean.

The children of these grades are shy of expressing themselves directly, but they will pour all their emotional life out through dramatic poetry and the drama. It seems an absolute moral necessity that they should have this outlet; it satisfies the social instincts and the love of organization and competition, and demands self-possession in speech and in the handling of the whole body for expression.

One of the most beautiful things about these exercises is the earnest way in which the children make their preparation to do their part, whatever it may be, and the sympathy and comprehension that they show in their choice of subject-matter, and the manner of its presentation. The spirit of helpfulness is stimulated in an unconscious and wholesome way; a grade or group of children will work together for this common end, without thought of self, absorbed in the subject and its expression. They will bring all the resources of the school to help them, teachers, library, museum, art, literature, and music; and will select unerringly whatever mode of expression best represents,

or conveys to the school, the thought. For example, if they are studying the Esquimo, his life, customs and dress, and they can make this clearer by painting or modeling, or by acting out some scene, than by speech, they do it, not because they happen to do these things so well, but because form, color, and movement more fully express what they wish to tell, and are with the little children easier to command than speech.

From what I have already said, you may see that the exercises grow out of the daily work of the school or out of the needs of the children, and are usually the culmination of some line of study. The subject is sometimes science, the telling or illustrating of nature observations; the story of some visit to the farm, the art gallery or work shop; history, current events — history in making; the massing of the literature and music of some special subject, or special day; or the stories that delight children's hearts. Thus, instead of interfering with the school work, they emphasize, reinforce, and vitalize it; give it form, steadiness, and purpose; and furnish the best test of the children's growth in power and skill.

These are a few of the subjects for this month, which will illustrate the thought of our plan: "The Farm," "Nonsense Rhymes," "French Games," "Trees and Fruit," "When the Leaves Turn Brown," "Swedish Handiwork with Specimens," "Norse Stories," "Current Events," "Music," "Gymnastics," "A Visit to the Swamp," "Hallowe'en," "Arts and Crafts Movement," etc.

The children often themselves suggest the subject, for when they are especially pleased and happy over some piece of work, they exclaim: "Let us have that for morning exercises!" It is their best they bring every time.

Music has always been recognized as a great unifying, socializing influence. People who sing together are, for the time being, moved by one impulse and one thought. It is the one art, if we except the dance, through which the spirit of the whole can be expressed in a single result. These daily exercises give opportunity for the whole school to live together for a few moments in the most intense spiritual way. Indeed, coming together seems a necessity for musical training. At this time

the children may also hear interpreted beautiful music which is yet beyond their own skill, and they learn to listen and to hear with intelligence, which is an essential part of musical training.

These exercises also provide the easiest, simplest, most natural, effective way of bringing the children each day in contact with a choice piece of literature: a fairy-tale, or some world-story, well written, and artistically arranged, a bit of romance or humor, a stirring lyric or an inspiring scene from one of the great dramas, embodying the central idea or general feeling of the exercise.

The children are sensitive to rhythm, tone-quality, and feeling, and they should hear the great literature read, simply voiced, interpreted; it should then be left to work its own way, unconsciously into their characters. One good thing every day means an accumulation of the world's beautiful thoughts. We cannot measure the influence immediately and accurately as we can that of more material things—the ability to add or subtract or to read a recipe for making candy; but we see the pleasure it gives now, and many of us can testify to the joy that early contact with great literature has brought into our lives. The children understand but dimly; they feel rather than understand; but even you and I understand only in part; each according to his measure.

Some of the best things appropriate to the children may be learned and recited by them when the subject and the occasion demand it.

I need not speak of the enrichment of the vocabulary, of the freedom of body, of effectiveness and beauty of speech, or of the joys of expression. Let me rather emphasize the opening of the eyes, the awakening of the soul to the beauties that often lie unnoticed all about until some bit of literature, some touch of art, reveals them. Some of us get at nature this way; she hides the beauty of her face from us until some other hand moved by a soul with deeper insight and wider sympathies lifts the veil. "Art was given for that; God uses us to help each other so, lending our minds out."

The special day exercises are but a broadening out of these

daily exercises in which the children take part simply and naturally and with as little self-consciousness as on ordinary occasions. They become accustomed from childhood to a large audience, to think and speak upon their feet so people can hear and understand. It is the habit of meeting an audience every day from the beginning that tells, that gives power, skill, and self-possession. The majority of children trained in this way never experience the agony of self-consciousness that an audience means to those educated to self-repression instead of self-expression.

The great racial festivals are but the culmination of some phase of life through which the race has lived; Thanksgiving, the harvest festival, nature's great climax; Christmas, the triumph of light over darkness, of good over evil, the birth of Christ, the Light of the world; Easter, the new life of the spring, the regeneration of the spirit, the resurrection of the Lord.

A study of the history of these festivals, and of the different ways of celebrating them, leads not only into the life, customs, and manner of dress of the peoples of the earth, but gives us glimpses of their spiritual life, their aspirations and hopes. It teaches the continuity of history, the oneness of the race, and the brotherhood of man.

Our national holidays are also the culmination of the working out of some great movement in the national life—Washington's birthday, the travail of the nation's birth and strenuous early life; Lincoln's birthday and Memorial day the climax of the tremendous national struggle over human slavery. The children cannot celebrate these days without some insight into causes and effects and into the trend of government. They cannot celebrate these days without some appreciation of the quality of the men, the high ideals of character, citizenship, and statesmanship, and the spirit of pure democracy that moved those who shaped the destiny of our country. These are surely wise teachings for all American boys and girls. I sometimes think that if the schools were in session on our first national holiday, the Fourth of July might mean more to the children than firecrackers and noise; that patriotism, self-sacrifice, and high deeds

might be taught through the study of the struggle for liberty, that culminated in the Declaration of Independence.

The value and scope of such exercises must be determined in the end, not by theories, but by the effects upon the life and character of the children, and the teacher in daily contact with them should be the best judge. Only by watching the children can we answer such questions as these:

What are the physical effects? Are there signs of nervous strain, excitement, self-consciousness, disorder, rudeness, and lawlessness; or is there a tendency to self-control, sanity, poise, courtesy, and order?

What is the effect upon the regular program? Do the exercises hinder, or do they refresh, uplift, and inspire?

Is the daily self-expression through the various modes an intellectual stimulus, intensifying thought and concentrating energy, or disorganizing and dissipating?

What is the effect upon the social life of the school? Are the children better members of the community, more considerate and helpful?

What is the children's attitude toward the exercises?

The children are not unconscious spectators of nature's movements. They watch the watering of the soil, the springing of the seed, the growth of the plant, and the ripening of the fruit and grain. They study fruits and seeds, their habits, preservation, and uses. Thanksgiving is the culmination of this study.

THANKSGIVING FESTIVAL.

March.

Music: "Come, Ye Thankful People, Come!"

Reading: Psalms.

Music: Canticle.

Music: "Hurrah, Boys!"

Music: "Wake, Viol and Flute!"

March.

Music: "Sing We a Song of the Harvest!"

Procession.

Music: "Come, Ye Thankful People, Come!"

Interlude.

March.

PARTY.

Refreshments served by sixth grade.

Seventh and eighth grades, and pedagogical class, in Puritan costume, acting as hosts and hostesses.

Kindergarten and first grade—games.

Second grade—Indian harvest dance.

Third grade—recitation and acting of the poem :

"Over the river and through the woods
To Grandfather's house we go."

Fourth and fifth grades—pantomimes from *Miles Standish*.

Sixth grade—French game.

The following interlude, written and spoken by Mrs. Maude Greene, of the pedagogical class, embodies the thought underlying this celebration of the festival :

"And God said, 'Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit, after his kind, whose seed is in itself, upon the earth,' and it was so.

"And God said, 'Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed ; to you it shall be for meat.'"

All peoples, Jews and Gentiles, Greeks and barbarians, savage and civilized, have recognized some superior Power which yellows the grain and purples the grape, gives harvest and vintage, food and drink. In honor of this Giver they have held periodical festivals, holy convocations, and feasts of rejoicing.

In all times and places the celebration of the harvest has been primarily the recognition of one great Giver. The first and natural expression of this spiritual idea was praise and thanksgiving. Accompanying the song of gratitude, as its visible manifestation, was the offering of the fruit of the land and the sacrifice of the young lamb. The acknowledgment of one Giver was the recognition of one family. This realization of brotherhood was expressed in the sharing of the fruits of the harvest. The spirit of common rejoicing was manifested in dances, plays, games, and feasting.

The fundamental thought of the recognition of the supreme Giver, to whom belong the earth and the fulness thereof, is expressed in the program of today in songs of praise and thanksgiving, and in the reading of that majestic and immortal verse which was sung of old by David, the sweet singer of Israel.

As the material manifestation of praise and gratitude the autumn crowned procession brings offerings of fruits and flowers in dishes of gold and silver, and heaps them high on the altar of the Mother of Plenty. She receives these, and that no child may be deprived of his share in the harvest, she in turn gives them again to others of her children. She makes abundance and thanksgiving universal.

The spirit of common rejoicing is expressed in the Thanksgiving party. The children are the hosts; and each child brings his best for the entertainment and refreshment of the guests.

One of the pedagogical classes selected and arranged the reading printed below. This selection necessitated wide reading and a close study of the meaning and spirit of the text. The responses were not given in unison, but by individuals seated in different parts of the house.

Blow up the trumpet in the new moon, in the time appointed, on our solemn feast day. (Ps. 81:3.)

R.: The earth is the Lord's and the fulness thereof: the world and they that dwell therein. (Ps. 24:1.)

Bless the Lord, O, my soul, and forget not all his benefits. (Ps. 103:2.)

R.: Who satisfieth thy mouth with good things, so that thy youth is renewed like the eagle's. (Ps. 103:5.)

O, magnify the Lord with me, and let us exalt His name together! (Ps. 34:3.)

R.: I will praise the name of God with a song, and will magnify him with thanksgiving. (Ps. 69:30.)

It is a good thing to give thanks unto the Lord, and to sing praises unto thy name, O most High. (Ps. 92:1.)

R.: For thou, Lord, hast made me glad through thy works: I will triumph in the work of thy hands. (Ps. 92:4.)

O, Lord, how great are thy works! and thy thoughts are very deep. (Ps. 92:5.)

R.: He sendeth the springs into the valleys, which run among the hills. (Ps. 104:10.)

They give drink to every beast of the field; the wild asses quench their thirst. (Ps. 104:11.)

R.: He watereth the hill from his chambers; The earth is satisfied with the fruit of thy works. (Ps. 104:13.)

He causeth the grass to grow for the cattle, and the herb for the service of man: that he may bring forth fruit out of the earth. (Ps. 104:14.)

R.: And wine that maketh glad the heart of man, and oil to make his face to shine, and bread which strengtheneth man's heart. (Ps. 104:15.)

The trees of the Lord are full of sap. (Ps. 104:16.)

R.: Sing unto the Lord with thanksgiving. (Ps. 147:7.)

Who covereth the heaven with clouds, who prepareth rain for the earth, who maketh grass to grow upon the mountains. (Ps. 147:8.)

R.: He giveth to the beast his food, and to the young ravens which cry.
(Ps. 147: 9.)

Thou visitest the earth, and waterest it; thou greatly enrichest it with the river of God, which is full of water; thou preparest them corn, when thou hast so provided for it. (Ps. 65: 9.)

R.: Thou waterest the ridges thereof abundantly; thou settlest the furrows thereof; thou makest it soft with showers; thou blessest the springing thereof. (Ps. 65: 10.)

Thou crownest the year with thy goodness; and thy paths drop fatness.
(Ps. 65: 11.)

R.: They drop upon the pastures of the wilderness; and the little hills rejoice on every side. (Ps. 65: 12.)

The pastures are clothed with flocks; the valleys also are covered over with corn; they shout for joy, they also sing. (Ps. 65: 13.)

R.: Give unto the Lord the glory due unto his name; bring an offering and come into his courts. (Ps. 96: 8.)

Let the heavens rejoice, and let the earth be glad; let the sea roar, and the fulness thereof. (Ps. 96: 11.)

R.: Let the field be joyful, and all that is therein; then shall all the trees of the wood rejoice, before the Lord. (Ps. 96: 12, 13.)

Let the floods clap their hands; let the hills be joyful together before the Lord. (Ps. 98: 8.)

R.: O clap your hands, all ye people; shout unto God with the voice of triumph. (Ps. 47: 1.)

Sing praises to God, sing praises; sing praises unto our King, sing praises.
(Ps. 47: 6.)

R.: For God is the king of all the earth; sing ye praises with understanding.
(Ps. 47: 7.)

Praise ye the Lord. Praise ye the Lord from the heavens: praise him in the heights. (Ps. 148: 1.)

R.: Praise ye him, all his angels: praise ye him, all his hosts. (Ps. 148: 2.)

Praise ye him, sun and moon: praise him all ye stars of light. (Ps. 148: 3.)

R.: Praise him, ye heavens of heavens, and ye waters that be above the heavens. (Ps. 148: 4.)

Praise the Lord from the earth, ye dragons and all deeps:

Fire and hail; snow and vapor; stormy wind fulfilling his word:

Mountains and all hills; fruitful trees and all cedars. (Ps. 148: 7-9.)

Beasts and all cattle; creeping things and flying fowl. (Ps. 148: 10.)

R.: Kings of the earth, and all people; princes and all judges of the earth; both young men and maidens; old men and children.

Let everything that hath breath, praise the Lord. (Ps. 150:6.)

R.: Praise him with the sound of the trumpet: praise him with the psaltery and harp. (Ps. 150:3.)

Praise him with the timbrel and dance: praise him with stringed instruments and organs. (Ps. 150:4.)

R.: Praise him upon the loud cymbals: praise him upon the high sounding cymbals. (Ps. 150:5.)

Praise ye the Lord.

Saying, Amen: Blessing, and glory, and wisdom, and thanksgiving, and honor, and power, and might, be unto our God forever and ever. Amen. (Rev. 7:12.)

MARTHA FLEMING.

THE UNIVERSITY OF CHICAGO
School of Education.

NOTES ON THE PSYCHOLOGICAL OBSERVATION OF CHILDREN.

I.

PSYCHOLOGICAL observation of children departs in no abrupt or radical way from ordinary observation. Psychology, it is perhaps unnecessary to remark, promises no peculiar, far-fetched, clairvoyant insight into the workings of a child's mind. It does not open up avenues of easy, telepathic access to the mysteries of the spirit. Nor does psychology justify belief in the efficacy of any amount of hocus pocus with scientific or philosophical terminology, or in any amount of performing with brass instruments, or upon brass instruments, although it does have to have a language, and it does have to avail itself of certain forms of physical apparatus. Psychological observation aims to make ordinary observation more effective and fruitful by stopping to look for a larger and more definite range of facts than ordinary observation usually has time to try to discover, and by making more explicit certain underlying relations or principles to which ordinary observation does not always penetrate.

It seems altogether likely, therefore, that psychological observation of children may well form a part of a course in psychology for prospective teachers, even when the course is purely introductory and elementary. There is nothing particularly novel in this point of view, but how such observation can best be organized and carried on is not altogether clear. It is not possible to determine without considerable experimenting what kind of guidance is most helpful; what things should be looked for; and where and when. These notes are simply notes on some of the experimenting of this kind which has been done during the present quarter with a beginning class in psychology. It will be evident that no one line of inquiry has been followed exclusively or worked very far, but I believe that extracts from the written reports of students reporting on their

observations will be found suggestive of several lines that could be developed further with profit.

Observation of any kind is not likely to get very far or become at all scientific without a consciousness of some clue, or of some guiding principle of unity. In the absence of such a clue or principle, we either get completely lost in the complexity of what we are trying to observe, or else we go to the other extreme and say that we see nothing worth mentioning; we thought there was something to see in this region, but we must have been fooled by a mirage. Thus students in the class in psychology who have difficulty in making reports on their observations of children seem to gravitate toward one extreme or the other. Some complain that the children are so changeable and contradictory that only confused impressions can be carried away. Others say that they saw nothing in the children worth mentioning, that it was a lesson in arithmetic or in writing, and that the method of teaching it was the only thing they noticed—thereby seeming to suggest, though unwittingly, that a model school which should aim merely to demonstrate certain methods of teaching might just as well make use of rows of dummies or wax works, as of live children.

The students taking this course have been given various suggestions and clues, most of them growing out of their own unaided observations, such as to note what things and what activities seemed to appeal most strongly to the interest of the children, what were the signs of attention and of inattention, and what fluctuations in attention could be detected. They have also been made more or less aware of a principle of unity, or what may be termed the psychological unit.

This principle or unit may be described in various ways. In simplest terms the unit is the *conscious act*. In more technical terms it is the sensori-motor circuit. After the analogy of the reflex-arc concept, it has been more customary to speak of the sensori-motor *arc*. If it be an arc, it is just as much a motor-sensory as a sensori-motor arc. The term "circuit" names the mutual and complementary relations of the two arcs. In less technical language, our acts, those which psychology studies,

flow from and depend upon certain states of consciousness—this corresponds to the sensori-motor arc. At the same time, our states of consciousness report and depend upon our acts—this corresponds to the motor-sensory arc. No separation exists between the two sides. For example, the very act of writing these words, which was dependent in a measure, upon a certain state of consciousness, a mental image at least, if not an idea, becomes in its very expression a stimulus to further states of consciousness. The unit of this whole round of conscious activity, or of any round of conscious activity, is the sensori-motor circuit. It is also described as the co-ordinating or adjusting of stimulus and response. Various degrees and qualities of consciousness characteristic of this process have been discussed in class, ranging from habit to attention.

As in the case of the units employed by the various physical sciences—the atom, molecule, and cell, for example—the sensori-motor circuit represents the lowest terms to which the reality studied can be reduced without annihilating or getting outside of the reality itself. The unit in each case, however, is not a mere reduction to lowest terms, a mere abstraction. It has been stripped of concrete details, to be sure, but it has been stripped for action, as a runner is stripped for the race. It becomes a principle of unity, a principle of guidance, of interpretation, of growth, of control.

It cannot be expected that any one of these scientific units should have much apparent meaning or value for a beginning student. The general or controlling principles of a science are not appreciated at the start, no matter how large they may be written on the first pages of the text-book and no matter how conscientiously committed to memory and glibly recited. They are more commonly the last things to be fully appreciated. I should suppose that the atom and molecule to which the student of chemistry is introduced early in his course must be very different from the atom and molecule he learns to know and use when he studies stereo-chemistry. It does not follow, however, that a student should not be introduced to a principle until he is ready to appreciate it—for one thing, that time would

never come, under that condition. The business of an introductory course in any science is to *introduce*; that is, to present the student in some courteous way, in some way that should not insult either nature or human nature, to the principles of thought and action which constitute that particular branch of learning as a science. The point is perhaps too obvious and commonplace to have mentioned, yet I wish I could make it more emphatic, in the face of so much superstitious confidence in the magic touch of the externals of science—laboratory materials and apparatus, the accumulation of facts, and the production of tangible results; and especially in the face of so much impatience with the slow growth in the mind of the concepts of science—now vague, impalpable, and elusive, shifting like clouds and perhaps obscuring the light, and only after long delays precipitating and fructifying the earth.

But my purpose was simply to write a brief introduction to some extracts from reports on observations made by members of a beginning class in psychology. The following extract may be taken as illustration of the psychological unit in one of its simplest forms:

In the first grade an experiment was being made—some plates were put on the table and the children asked not to touch them. The teacher had hardly made the request when one boy put out his hand and touched a plate. She spoke of it again. He put his hands down as if to hold them. But it was only a moment before they were up, reaching for the plate again. He seemed to have a desire to do as he was asked and, I think, intended to do so, but his will power was not strong enough to control his hand.

Several members of the class have been studying the character of the responses to stimuli made by some of the children, noting especially whether, on the one hand, responses or reactions are made in a pretty immediate, direct, intense, or disconnected way, with little or no "stopping to think," or, on the other hand, whether the responses are slow, delayed, thoughtful, self-conscious, or switched off possibly into unseen channels of association or of emotion. These expressions are not intended to be synonymous, but merely suggestive of a few of the various possibilities. A child whose responses are prevaillingly of the former character might be called a "motor" child; one of the

latter character might be called a "sensory" child, following the very convenient but somewhat misleading nomenclature suggested by Professor Baldwin in his *Story of the Mind*.

I will select first a number of extracts from reports of various students which were made with reference to a child, who seems to be a pretty clear case of the "motor" type.

A child in the first grade has interested me very much. He is active, impulsive, and quick to respond to every stimulus. Everything he does seems to be done without the least thought of why he is doing that thing. If told to do a thing he thinks only of the act and listens to no further details, but gets up to do it. For example, one day he was put on a stone committee, which was to gather stones on the *day following*. The latter part of the directions he did not wait to hear, but taking his partner *started out at once* to gather stones, and of course had to be called back. This thoughtless activity has led to selfishness on his part, I think, in that he responds so quickly as to think of no one but himself. He is also, I think, very domineering.

(The early and definite locating of a child under some familiar ethical category is certainly not to be encouraged. The average moral "size-up" of a child is usually the most immoral thing that can be done for him. But the relating of a moral characteristic to some psychological characteristic is a very different proposition, and one from which much help might be expected.)

I have still been interested in watching a boy in the first grade who is of an impulsive temperament. I have noticed that when a subject is particularly interesting to him he wants to talk and act continually. All his senses seem to be immediately excited to activity. A very good illustration of this was brought out in a recent lesson in science, in testing different stones for their composition by pouring acid on them. Most of the children were content merely to watch the process without touching the stones unless they were told. Not so with this child. Even after being told that he might burn himself if he touched the stones, he could not resist the temptation of putting his fingers to every tested stone.

The attention of the strongly motor type of child is hard to hold, because he has a tendency to seize upon the action before all the conditions are presented. Nor does he often want to be helped if he can possibly help himself. Only after he has tried and failed does he seek conditions or assistance. A child of that kind in the first grade was attempting to write his name on the board. He had done it before, but the child next to him was writing backwards; so imitation got the better of a slightly formed habit and he too began to write backwards. He held to the correct form, but reversed the letters [mirror writing] till he reached the third letter of his name, the letter

l, noticeable for its height. Then habit reasserted itself and he made the letter correctly. Consequently the downward stroke of the l cut into the letter he had previously formed. He at once stopped; looked at it, and tried again, with the same result. After a verbal suggestion that he was writing backwards failed to help him, someone began to write his name correctly on the board before him; but he would not wait to see it finished. He tried again — still backwards. He saw that it was wrong and looked up for help. Watching the whole word written seemed to impress the direction on his mind, and he wrote the word from left to right.

Imitation is very strong in the motor type of child. He wants to "show" how the thing of which he is talking looks or is done. He is likely to accompany the word or action of another with action. Wednesday morning the first grade was listening to a story. One child kept breaking in upon the story with suggestions, but at last his attention was fixed. The teacher was describing a valley, level in the middle, with mountains on each side. As she showed with her hand the level and steep parts, the child with his head far forward, imitated every motion, even continuing the motion after she had ceased.

The extracts just cited serve to illustrate the extreme suggestibility and impulsiveness of the motor child. These qualities usually make for openness and frankness of character. His difficulties usually lie pretty close to the surface. As Professor Baldwin points out in the work already referred to (chap. viii, p. 174), the motor child is continually "'giving himself away,' so to speak, by constantly acting out his impressions, and so revealing his progress and errors."

The "sensory" child, on the other hand, presents a far more difficult problem. Observation, unaided by experiment, is often baffled by his actions or lack of actions. It is puzzling to try to make out what is going on behind the scenes. "Where the child of movement speaks out his impulsive interpretations," to quote again from Professor Baldwin, "this one sinks into himself and gives no answer."

I am sure the caution of the following report is to be commended:

The child I have been observing in the kindergarten is slow in responding to stimuli. He is a child who, I believe, is maturing very slowly. He has what I would call a dull, dreamy expression, but I have not been able to tell whether this is his natural expression or whether his mind, instead of being interested in the story or game at hand, is wandering. The teacher

had told the children the same story several times, so as to have them become familiar with it. One morning she told them they might help tell the story. They all seemed very eager to tell it, except this one child. He sat very quietly while the story was being told. Now whether his mind was concentrated on the story at hand or whether it was wandering, I could not tell.

The "sensory" child is likely to be far less open to suggestion than the "motor" child, far less imitative, as the following incident with reference to the same child will illustrate:

One child in the kindergarten has been of special interest to me since the commencement of the observation work. I have worked with him at various things and he showed no interest whatsoever. [The fact that a student should take special interest in a child, because he showed no interest whatsoever, is rather significant, perhaps, of the kind of response observation work may call forth.] When told to do anything he would do it slowly, and carelessly, and aimlessly. All the little ones were deeply interested in making envelopes, for example, with the exception of this one child. He would fold the paper wrong, and if he happened to fold it right, it would be far from accurate. I would explain again and again how the seed would fall from such poorly made envelopes. He would listen and then make the next one as poorly as before.

There has been a great variety of observations on interest and attention, but it is impossible to arrange extracts from them in any systematic way. Taken in themselves they are pretty fragmentary and scattered, ranging all the way from the shifting play of interest and attention in the kindergarten to a case of highly specialized interest in one of the upper grades; but nearly every one would serve as a suggestion, a point of departure, for further observation and study.

The kindergarten children were asked to sit down in their chairs and pay attention to the drawing of a picture by one of the teachers. They are not often called upon to sit still and do nothing but attend, and it was interesting to note and compare the different ones. Most of them soon tired of watching the development of the picture and began playing with those nearest to them. Two little girls paid attention in a way — they were not interested in the real development of the picture, but watched it closely to make some remark to each other about every new part. All were greatly interested in the picture when it was completed, but paid very little attention to it until then. They had a motive or an end in view for attending to the development of this picture, but they were too young for such a vague motive to hold them to attention.

It will be noticed that this excellent bit of observation tends to fall into the "psychologist's fallacy" at the close. The children may have been *supposed* to have a motive for attending, but that they really *had* a motive, or that their tender age could keep an actual motive from operating, is exceedingly doubtful. A motive that can simply be entertained, that does not affect conduct, that does not stimulate some response or attitude, is a contradiction in terms. A motive that is not motor is a psychical vacuum, which human nature abhors. This is not aimed at the report just quoted, which may have really meant something very different; but aimed—well, into the air, if you like.

There have been some reports on what appear to be the keenest interests of the children of the first two grades. I will make selections from two reports bearing upon the interest in constructive work, which, on the whole, seems thus far to be the keenest of all. The question has been raised as to whether the social interest, sometimes called the altruistic interest, the interest in the social use to which the thing constructed is to be put, is not the dominating interest. The evidence bearing on this question has come out mostly in oral discussions, which I am unable to quote, but it tends to show that such is not the case. The interest in construction *per se* is livelier and more persistent. It can usually be turned and enlarged, if desired, to include the social interest. The whole matter, it need hardly be said, is one that will repay further investigation.

Those things which the children can do and feel that they are of some value will be the things that interest them most. For example, the second-grade children have been interested in materials and fabrics, because they were choosing some material that would make the best holders to use in the domestic-science room. These holders were for the rest of the school, so *we see* they were to be of some use and were to be for somebody's comfort. *Therefore* the children were interested.

The *italics* are mine. Here we have another beautiful case of the "psychologist's fallacy." I do not know of a better example of the tendency so prevalent among us teachers to read our own sophisticated moral motives into and back of the acts of little children. I am not overlooking, I hope, the value and

suggestiveness of the report just quoted in raising the question regarding the relative intensity of interests.

Here is an extract from another report bearing on the same point; *italics* mine:

All the children of the second grade are very much interested in weaving holders; so much so that yesterday morning before school they began to work on them without being told. They know the need of holders and would probably not care to make them if they knew no use to which they might be put. *Still it is not their use alone, I believe, which stimulates the children to make them. For the most part the interest is in the activity itself.* Children want to be doing something, using their senses, all the time.

It is noticeable that most of the observations bear upon the character of the motor responses, children being far more accessible to observation on this side than on the side of sense experience. It is possible, however, in some cases to get at the sensory side, as the following extract from the report, just quoted in part above, will illustrate. The incident may also be taken to illustrate the inhibitory effect of a slightly unpleasant sense experience.

Each child chose the colors with which to make his own holder. One boy chose two that went well together, yellow and blue, but gave the yellow to another child, who needed it, and took green to finish his with. When he had woven the two colors together for a time, he stopped working and said he thought it was not pretty; some other color would go with the blue better than green. His interest had subsided, and a teacher had to persuade him to go on again. This child seems to be more sensitive to harmony of colors than most children.

The following brief extract suggests a good lead for further observation, especially on the sensory side:

As a whole, the children in the kindergarten are very quick to respond to stimuli of the coarser nature, while those of the finer, such as delicate touch, call forth little response. . . . They do not mind if their envelopes are folded unevenly or cut in the wrong place. In fact, they would not notice it if their attention were not called to it by the teacher. . . . Their observation out of doors is very keen as compared with that of an older person.

In the following report there is an interesting and significant attempt, it seems to me, to connect the sensory and motor sides; that is, to make the "circuit":

This morning I was practicing writing on the blackboard in the first grade

room, before school. One of the children, noting the continuous line of *m*'s I was making, took up a piece of chalk and also began to make a line of them. His line, instead of being straight, first went up, then down. He did not notice the crookedness of his line, however, until a straight line was drawn just below the *m*'s I had written. Then he began again, this time keeping the lower strokes of the *m*'s quite uniform, but the upper ones still uneven. After noticing this, he watched carefully both the top and bottom of the letters, and succeeded in getting the letters quite uniform in size, but in a very crooked line. It was evident that writing in a continuous straight line involved more new sensations than he was able to attend to at one time. Neither uniformity of size, continuous movement of the arm, nor measuring distance visually, were as yet fixed pathways in his brain. Hence, when his attention was focused on the one action, the others suffered accordingly, since his muscular apparatus was unable to adjust itself to fit so many new, incoming sensations.

It is worth while comparing this report with the selection first quoted in this paper. In that selection the "will" was appealed to as affording a sort of explanation. In this report note that the "muscular apparatus was unable to *adjust itself* to fit so many new, incoming sensations." It is likely, of course, that there might be considerable difference of opinion as to explanations in either case. After all, the important thing to note is that *some* kind of psychological analysis and interpretation was brought to bear upon what might otherwise have been passed by as an incident too trivial to mention.

The point of this paper is intended to be pedagogical rather than psychological. I have tried to show by means of a few illustrations how, in the course of an introduction to psychological principles, the minds of prospective teachers may be turned to an objective, analytical, and, in some degree, scientific observation of children. There are those, no doubt, who would question the desirability of endeavoring to develop this attitude of mind in prospective teachers, fearing lest it should dull and harden that sympathetic and personal touch which is the essential qualification of the artist teacher. The contention is an important one, and one that cannot be fully discussed within the limits of this paper.

It should be freely granted that one who did not share in the well-nigh universal impulse of interest and sympathy toward

children would do well to select some other calling than that of teaching. But at the same time, I should maintain that there is a direct relation, a balance, between the range and play of objective, intellectual, scientific interest in children, on the one hand, and depth and genuineness of sympathy, on the other; and, further, that the sole guarantee of the latter is the former. The sign that these two have been developed is what we call the *sense of humor*, which is the life-preserver, if not the life, of the teacher. Without a sense of humor a teacher is either a drudge or a despot. Humor kindles and glows only when fed by objective relationships and incongruities perceived by a discriminating intelligence. It may be analyzed, perhaps, by one who manifests it not; but it *lives* by an objective, intellectual habit. It has been said of a certain portion of the human family, by one of their own number, that they take themselves too seriously and the world not seriously enough. No matter how unjust and uncalled-for such a remark may be, we should all admit, probably, that it does not describe a state of humor or of sympathy. It was said of a certain teacher that, whenever the pupils did wrong, she felt bad, instead of *looking into it*. The application is obvious. I recall hearing a distinguished physician, who had been praising a young and brilliant surgeon, say finally: "But yet, after all, he is too cold, too unsympathetic. *He doesn't know enough!*"

All this proves nothing, some one may say. Perhaps not, but it may help to define a point worth further investigation.

WILLARD C. GORE.

THE UNIVERSITY OF CHICAGO,
School of Education.

SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS.

II. FOOD.

Hunger never fails. All other appetites have their periods of activity and stagnation; passions wax and wane; emotions are casual and capricious. But the continuous discharge of the function of nutrition is interrupted only by the final interruption—death.—HENRY DRUMMOND, *The Ascent of Man*, p. 200.

HUNGER has ever been and doubtless ever will be the most permanent impelling force of mankind. It was the sole stimulus to the earliest occupations and still operates as a most powerful motive in determining the activities of the race. No occupations affect the lives of individuals so closely as those which are devoted to supplying man with food. No others are so fundamental to the various forms of institutional life.

So potent a factor is food in the early development of mankind that it is almost possible to write the history of a people from a knowledge of the foods that they ate. When this is supplemented by a knowledge of their manner of eating, we have a very good index of their culture. The late Professor Brinton regarded food as a most important factor in determining the destinies of people¹. He stated that differences in races depend essentially upon those differences in organic development which result from differences in nutrition.

Coincidences in the Genesis, the Exodus, and the Leviticus traditions of different peoples are traceable ultimately to a similarity in their methods of procuring food. Differences in the same are likewise traceable to fundamental differences in these methods. Although it would be an extreme position to state, as some authorities do, that there is no activity in life that cannot be traced back to the food-process, there is a truth in the statement that it would be well for all to recognize.

The most important question of primitive man is not what to eat; that question is decided by the resources of his environ-

¹ DANIEL G. BRINTON, *Races and Peoples*, pp. 40, 41.

ment. It is, rather, how to get possession of those materials which, though present, baffle his power to control. His difficulty was greater than that of the animals. The food of the lower forms of animal life is brought to them. They have merely to appropriate it as it comes. But with advance in complexity of structure, the difficulty of procuring food increases. So great is this difficulty that in the higher forms of animal life each species has solved the problem by setting aside certain organs to be devoted chiefly to this task. Animals have solved the problem of procuring food by changing the very texture of their tissues. Man alone has worked out a somewhat different method. The superiority of man's method consists not in a change in bodily tissues alone, nor in a more skilful use of any bodily organ, nor even in the mere use of a great variety of bodily movements, but in the subordination of the entire body to the service of the mind.

In this study let us attempt to discover the way in which man acquired, through the pursuit of the simple occupations of every day life, not merely free hands, but a free mind. Let us seek to discover how man developed himself through his occupations, and when we have learned the lesson, let us not merely seek to apply it in adjusting the conditions that shape our own lives, but let us secure such conditions in our public schools as will contribute to the most normal growth of the child.

It would be impossible, in the present state of knowledge, to trace the complete evolution of any occupation from its earliest inception to the latest step in its development. For a time, at least, we must content ourselves with considering such steps in the process as we are able to determine, trusting that at some future time the mists which now obscure great regions of the past may be dispelled by the light that comes from the introduction of more and more refined methods of research. In turning our attention to those occupations which arose in response to the need of food, the following outline, which is a slight adaptation of one that I have used in another place for a different purpose,¹ may serve to indicate, in a general way, the stages

¹ *The Place of Industries in Elementary Education*. Chicago: The University of Chicago Press.

of development through which any occupation that keeps pace with the general advance passes through. Knowing that agriculture and domestic service are belated forms of industry, it may prove interesting to seek to discover what the conditions were which retarded their development and how more normal conditions may be secured.

EPOCHS OF INDUSTRIAL DEVELOPMENT.

- I. The house industries or the period of domestic economy.
 1. The hunting stage.
 - (a) The river-drift people.
 - (b) The early cave-dwellers.
 - (c) The later cave-dwellers.
 2. The fishing stage.
 3. The pastoral stage.
 4. The agricultural stage.
 5. The age of metals.
 - (a) The age of copper.
 - (b) The age of bronze.
 - (c) The age of iron.
 6. The city-state.
 7. The feudal system.
 - II. The handicraft system or the period of town economy.
 - III. The factory system or the period of national economy.
- } Pleistocene period.
 } Prehistoric period.
 } Historic period.

In order to facilitate the process of forming sequences which shall embody the cumulative results of the entire study, the occupations of each period will be considered with reference to such topics as are included in the following outline :

OUTLINE FOR THE STUDY OF A PARTICULAR PERIOD.

- I. The people: Their equipment at the beginning of the period under consideration.
- II. The character of the area inhabited with reference to its fitness for supplying an abundance and a suitable variety of nutritious foods.
- III. The processes involved in the satisfaction of the need of food.
 1. Production.
 - (a) Production of raw materials.
 - (1) Processes.
 - (2) Motive power.
 - (3) Mechanical appliances.

- (b) Manufacturing.
 - (1) Processes.
 - (2) Motive power.
 - (3) Mechanical appliances.
 - (c) Distribution and exchange.
 - (1) Processes.
 - Storing.
 - Preserving.
 - Carrying.
 - Trading, et cætera.
 - (2) Motive power.
 - (3) Mechanical appliances.
 - (2) Consumption.
 - (a) Processes.
 - Cooking.¹
 - Serving.
 - Sanitation.
 - (b) Motive power.
 - (c) Mechanical appliances.
- IV. Influence of foods and the occupations which are associated with them upon the individual and the social development of the people.
- V. Educational opportunities presented by the occupations of the period.
1. Practical activities of value for educational purposes. Significance of [each with reference to—
 - (a) the physical development of the child.
 - (b) the intellectual development of the child.
 - (1) As a means of securing a free play of mind.
 - (2) As a means of laying the foundation of the physical, natural, and social sciences, and the arts.
 - (c) the development of the ethical nature.
 2. Suggestions regarding the use of these materials in the different grades of the elementary school.

Remains of river-drift peoples have been found in various parts of the world. Although these remains are meager, the combined efforts of the anthropologist, the archæologist, the paleontologist, and the geologist have enabled us to reconstruct, within fairly definite limits, the life of the period. The fact that remains which have been referred to the early part of the mid-Pleistocene period are found in widely separated regions, indicates that many parts of the earth were occupied by man in that remote

¹ The question may well be raised whether cooking should be considered under the processes of production or consumption.

time. Similarities in the skeletons and implements that have been found indicate to some minds a common origin and cradle-land and a subsequent dispersal; to others they indicate merely similarity in structure and in conditions of life.

Our race is made up of many elements which for long ages remained in a plastic condition. The nomadic form of life supported by such universal customs as exogamy, and the various forms of conquest, resulted not merely in a transference of peoples from one locality to another, but in a gradual assimilation of peoples. There are doubtless many cradle-lands of our race. The habitable regions of Europe, during that long period which preceded the prehistoric epoch, were all occupied at various times by scattered populations. There are many reasons for believing that the river-drift people, who occupied western Europe during the early part of the mid-Pleistocene period in company with the mammoth and the cave-bear, form one of the constituent elements of our race. The appearance throughout each period of historic times of a physical type similar to that of the skeletons that have been referred to this period certainly points in that direction. For the purposes of this study, however, it is sufficient to recognize the fact that even though the particular people just referred to may not form an element of our race, our forefathers, in their earliest state, must have lived under similar conditions and occupied themselves in much the same way.

The skeletons that have been found show that the river-drift people were short but powerfully built. They must have walked with a bend at the knee, for their thigh-bones were curved in a curious way. Their skulls were long and depressed and were marked with strong brow ridges. Their jaws were massive and powerful, the lower one sloping downward and backward on account of the absence of the chin prominence.

From the results of the study of comparative anatomy,¹ we may conclude that the great toe was shorter and smaller, the heel bone less strongly made, and the arch of the foot much flatter than it is in modern types. The river-drift man undoubt-

¹FRANK BAKER, *The Ascent of Man*. Smithsonian Report, 1890. Pp. 447-66.

edly had greater control over the movements of the toes than modern man, and less control over the smaller muscles which control the movement of the arm and hand. In fact, man's hands were not yet free from the function of locomotion, for he had not yet secured dominion over fire, which later afforded him protection from the beasts of prey. Accordingly the trees offered him the safest places of refuge; and he no doubt found it more prudent to swing from branch to branch, as he exploited his environment in search of food, than to expose himself to danger by walking upon the ground. It is this fact rather than kinship with the apes, which has caused the river-drift people to be called tree-dwellers.

As long as man was obliged to seek protection in the trees, he must have had difficulty in maintaining an erect posture. Indeed it is only with difficulty that civilized man can maintain an erect posture for a prolonged period. Yet he has a great advantage over the river-drift man; for the large muscles of the back, the buttock, and the calf of the leg, which are necessary in order to maintain an erect posture, were not well developed in that early age.

The inferiority of the river-drift man was due more to his lack of discipline and experience than to any inherent quality. His brain capacity was nearly equal to that of civilized man. He was limited in his resources, because he had to work out his problems from the beginning. He was at the short end of the lever. Only gradually did he become conscious of his own power; but as he did so, he laid the foundation, slowly but surely, of much of that which, in a more highly developed form, we prize in our life today.

The geography of Europe during the Pleistocene period was different in many respects from what it is at present. There were differences in the courses of rivers and in the contour of the continent. The land that now constitutes the British Isles at that time was a part of the mainland. The climate, during the early part of the period, was but little removed from the tropical, presenting neither extremes in heat nor in cold.

The prevailing animals were those which now characterize

unsettled regions in tropical and temperate climates, together with several species which have since become extinct, and the musk sheep and the woolly rhinoceros which came down from the North during the mid-Pleistocene period. There was surely a sufficient variety in the animal kingdom, and man soon learned ways of compelling the less formidable creatures to pay tribute to his most pressing need.

A considerable variety, too, was offered by the vegetable kingdom; but it did not offer food-stuffs in such an abundance as to deprive man of the stimulus that comes from the struggle for existence. The plains and uplands, which were covered with wild grasses, afforded a plentiful supply of food for the grass-eating animals, but were not suited for human habitation at this time. Man had not yet learned to capture the wild beasts, and his digestive system, though frequently called upon to perform marvelous feats, was not equal to the task of transforming grass into nutritious materials in sufficient quantities to enable him to maintain the struggle for life. For this reason, as well as on account of the fact that the river-drift man who exposed himself to the dangers of a grassy plain was apt to become the food of some wild beast, the grassy plains were avoided by man at this time.

The safest regions for the river-drift people to inhabit were well-wooded ones; but there were differences in these of the greatest import with reference to the human life of the time. Dense forests have never offered a sufficient inducement to savage peoples to cause them to become thickly populated. The difficulties that they present are such as to baffle the powers of people who have not made considerable advance in the mechanical arts as well as in the arts of living and working together. At this early date, when the water courses had not been cleared of natural obstructions, the dense forests along their middle and lower courses partook too much of the nature of malaria-breeding swamps to permit man to inhabit them, even though they had offered him a sufficient inducement in the way of nourishing foods. But it is not in the dense forests that man finds wild foods most easily. The thick foliage of the trees

obstructs the passage of the sun's rays and interferes with the development of nutritious roots, bulbs, nuts, and berries, which everywhere occupy an important place in the domestic economy of primitive peoples.

Repelled alike by the grassy plains and the dense forests, the river-drift people were attracted by the resources of the wooded hills near a river, a lake, or a spring of fresh water. Some well-known authorities still believe that man's earliest home was upon the seashore. Though that may be true, this study, which is based upon the records that have thus far been discovered, must begin with the life of man upon the wooded hills. These wooded hills of western Europe, which afforded available food supplies, as well as protection, were undoubtedly the cradle-lands of our race. Under the stimulus of hunger, the river-drift man exploited the resources of the wooded hills. The oak trees yielded acorns, the evergreens bore seeds, the wild plums offered their bitter fruit. Wild peas and beans, seeds of various kinds, leaves, especially the thick leaves of the wild cabbage, and several varieties of wild berries could be gathered at different seasons of the year. Imbedded in the earth, there were the stringy-rooted carrots, ruta-bagas, and turnips. So far as man was able to appropriate these materials of the vegetable kingdom to his own uses, they became elements in his food supply. The animal kingdom, too, very early was compelled to pay man tribute. The way in which man gradually rendered the various resources of the wooded hills available for human needs is the first chapter in the evolution of social occupations. It is this subject to which attention is next invited.

KATHARINE E. DOPP.

THE UNIVERSITY OF CHICAGO.

NATURE STUDY FOR THE GRADES.

WILBUR S. JACKMAN.

THE stress of the winter season taxes the powers of resistance in the living thing to the utmost. The gradually lowering temperature brooks neither excuse nor delay in those preparations which are necessary to insure the safety of the creatures that, but a few weeks before, would have been entirely blasted by a single hour of frost.

It is most natural, therefore, to turn the attention of the pupils, at this season, to the peculiar conditions assumed by living things in the winter, and to study the various protective devices employed by animals and plants. Most of the birds, thanks to that wonderful invention, the feather, have sought safety and comfort in migration; but the insects, the mammals, the earthworms, the plants, and man have each worked out certain plans that enable them to remain on the spot.

To the naturalist the winter is a season for observation not less interesting than the summer. The means adopted by the buds as protection against the season are as interesting as those used in summer by the leaves in seeking the light. The sudden and almost mysterious disappearance of the showers of seeds that lately ripened in enormous quantities is only paralleled by the silent withdrawal of the birds. The mud and slime at the bottom of the ponds and marshes hold a counterpart of the life that swarmed in the water in summer. Under stones, in the cracks of the bark of the trees, and in protected situations on the branches, are the cocoons, the eggs, and other forms of insect life that have developed a strength of endurance of the cold that is utterly beyond the powers of man.

The very first step in the study of these strange and apparently inhospitable life-conditions requires the thermometer, the use of which even the youngest children should learn. With this in hand, they may soon acquire some idea of what must be

endured by the buds on the twigs and by the cocoons swung to the branches; by the seeds in the surface inch of earth; by the roots a foot or more below; by the fishes in the water under the ice; by the seeds and small animal forms in the mud under the water; and, through these observations, they will soon find out within what narrow limits of temperature their own comfort lies.

From a study of life that is subjected to natural conditions only, it is an easy transition to the study of the means used to provide artificial heat and to a consideration of those conditions of life and of those peculiarities of structure and function which make it a necessity. The following outline suggests an order of topics in the study. It is the intention to have each grade, with the guidance of the teacher, select from the entire outline points that may be observed. Experiments should be performed when they are needed to answer some question, and they should come mainly through the inventions of the pupils themselves; otherwise they are liable not to be appreciated, and then they are of doubtful value.

It is of great importance, however, to keep the subject before the pupils in its entirety. True study does not *dissect* a subject, but *defines* it. Thus, the first-grade pupils, learning the use of the thermometer, will become a little better posted as to relative temperatures. By means of a journey over the school they can find out where the radiators are placed and why they are so placed, and, possibly, the number needed. Using smoking paper they can trace some of the air currents, warm and cold. They can note something as to their breathing; note, perhaps, the disagreeable odor of a poorly ventilated room. They can distinguish the different kinds of coal and make some collections. They can tell of the coal cars and coal sheds. If not otherwise practicable, the work of mining, transportation, etc., may be shown by pictures. Different kinds of coal reduced to small pieces and finely divided wood may be burned in a clay pipe or a tin cup, and the ash of each examined and comparisons made. The relation of heat to light may be presented through the heating of a small wire in a flame; when hot

enough, the wire gives light. Finally, a visit to a power-house will show what heat can do as work power. All this is general, to be sure, but what is gained is gotten through observation and by a method truly scientific, and the symmetry and wholeness of the original picture which the child had to begin with will not have been destroyed.

In the higher grades the same ground is covered; many details can be omitted which will give more time for experiments of a more exact character. Whatever the grade may be, there will be abundant demand for expression by the hand, in drawing and color work, in modeling, while almost every step will require the application of number and form. Of course the picture will not be preserved in its completeness unless the pupil is kept in touch with the great underlying causes of the phenomena of winter. The short day, the slanting sunshine, the wind, the frost and snow in place of the dew and rain form the real setting in the minds of the children for all the work that is done. Some form of records of these should be kept. The records should be graphic—not merely of itemized facts among which there are no very obvious relations.

For fuller suggestions the teacher is referred to the author's *Nature Study for the Common Schools*; for details as to experiments, to *Nature Study for the Grammar Grades*; and for related work, to *Nature Study and Related Subjects*.

THE WINTER SEASON.

I. GENERAL EFFECTS.

1. Hibernation of animals.
2. Buds, roots, stems, seeds, etc.
3. Temperature of air; of soil at different depths; in different locations. Use the thermometer.
4. Clothing and covering of animals.

II. HEATING AND VENTILATION.

1. *The school heating plant* (steam).
 - (a) Radiators.
 - (b) Boilers and pipes.
 - (c) Furnace.
 - (d) Conduction; convection; radiation; illustrative experiments.

2. *The home heating plant.*
 - (a) Hot air.
 - (b) Grates.
 - (c) Hot water.
 - (d) Steam.
3. *Effects of heat upon air.*
 - (a) Air currents.
 - (b) Openings of rooms, doors, cracks, etc.
4. *Breathing.*
 - (a) Number of respirations per minute.
 - (b) Quantity of air breathed.
 - (c) Qualities of expired air ; tests with flame and lime-water.
5. *Mechanics and physiology of breathing.*
 - (a) Lungs and air passages.
 - (b) Heart and blood-vessels.
 - (c) Circulation, pulse, etc.
 - (d) Effect of exercise as shown in breathing and pulse rate.

III. FUELS.

1. *Kinds used.*
 - (a) Coal ; anthracite, amount needed to heat the home.
 - (b) Coal ; bituminous, amount needed.
 - (c) Natural gas ; amount needed.
 - (d) Wood ; amount needed.
 - (e) Contrast the properties of different fuels.
2. *Cost of fuels.*
 - (a) Mining and lumbering. Localities.
 - (b) Transportation.
 - (c) Life of people engaged in these industries.
 - (d) Sources of loss in the production of heat for its practical uses.

IV. NATURE OF FUELS.

1. Experiments to show the per cent. of ash in various kinds of coal and wood.
2. Experiments to show the amount of gas in different fuels.
3. Gas-making ; various tests for gases.
4. Sum up the likenesses and differences of the various fuels.

V. HEAT AND LIGHT.

- (1) Study of a candle ; of a lamp ; of a gas flame.
- (2) The electric light.

VI. HEAT AS ENERGY.

- (1) Study the relation of the boiler to the furnace and the engine.
- (2) Its effect upon air ; upon liquids ; upon solids. Study buildings where iron is used in places subject to changes in temperature ; beams that are riveted together.

BOOK REVIEWS.

Norse Stories. BY HAMILTON WRIGHT MABIE, edited by KATHARINE LEE BATES. Chicago: Rand, McNally & Co., 1902. Pp. viii+304.

Norse Stories has for years past been considered the best collection of Norse myths for school use. The events in the life of the gods are all told, but one misses the glorious fierce movement, the simple dramatic action of these human gods. It seems as if our old humorous Thor had a different stage than the craggy rocks and deep fjords to play on, in short, one does not feel the stamp of the country on her gods; one does not feel the pulse of the Northmen in these stories as I think one might expect. I am sure that the theme *Norse Stories* is one unusually well adapted for children, and believe that the teachers will find great help in the new edition of the book. It certainly presents the stories less changed and more simple than any other collection of Norse myths.

Viking Tales. By JENNIE HALL. Chicago: Rand McNally & Co., 1902. Pp. 207, 12mo. Cloth.

Miss Hall has given to children a book which they will love. Most of the supplementary literature offered to the schools is weighed down with information until the artistic simplicity and dramatic unity are gone. Miss Hall has wisely given much needed and valuable information in "Descriptive Notes" at the end of the book, and has therefore been free to tell a pleasant and entertaining story.

Viking Tales will be a joy to children, because it deals with characters and events which are dear to a child's heart, and because the tales are told in an honest, artless style, which often catches the pure and lofty simplicity of the sagas themselves.

Of the three values of the book which Miss Hall mentions in the "Suggestions to Teachers," the first one is by all means the greatest. "The men, with the crude courage and the strange adventures that make a man interesting to children, have at the same time the love of truth, the hardy endurance, the faithfulness to plighted word, that make them a child's fit companion."

It is here one perhaps feels moved to say: "Give us more of this, more examples of the dashing and daring, more of that peculiar grim humor, more of that intense hatred and immeasurable love which moved these strong men to action."

But withal there is much of the true Viking spirit in the book, and it certainly will receive a warm welcome by children and teachers alike.

GUDRUN THORNE-THOMSEN.

THE UNIVERSITY OF CHICAGO
School of Education.

Just So Stories for Little Children. By RUDYARD KIPLING. New York: Doubleday, Page & Co. Pp. 249, 8vo. Cloth.

ONE who has learned to know the *Jungle Book* with children is predisposed to find a treasure in another volume of children's stories from Kipling's pen. One, how-

ever, who has read both *Captains Courageous* and *Stalky & Co.* should not expect all this author's stories to be pitched on an even high level. In the *Just So Stories* we are treated to some delicious bits of humor, which, however, are rather mixed in their seasoning, being flavored in part to suit the palate of the sophisticated adult and yet abounding in just those bald incongruities and turns of fancy that are to children of a certain age the soul of wit. The childish mispronunciations of long words, the puns and illusions that require experience and culture to appreciate, and the gentle satire upon some educational and anthropological hobbies, all impress one as the outcome of a playful mood in some grown person who amuses himself for a time with a child: telling him a story, then quizzing him to hear his naïve replies; dropping occasional dry asides for the appreciation of listening grown ups; and altogether telling the story half for the child's entertainment and quite half for his own enjoyment of the youngster's attitude toward it. The story of "How the Leopard Got His Spots" is quite in this vein. "How the Camel Got His Hump" contains an appreciable moral most humorously and adroitly administered.

"The First Letter" and "How the Alphabet Was Made" are charming settings of the evolution of symbols, fanciful yet not distorted, that would put heart into the dreariest presentation of the cave-man.

Altogether the book with its alliterations, its repetitions, and its jokes, is a contribution worth many a proper story of "Amy and Her Little Dog Carlo."

Eskimo Stories. By MARY E. SMITH. Chicago: Rand, McNally & Co., 1902. Pp. 189, 12mo. Cloth.

Eskimo Stories fills quite another place in the mass of literature for children. It is a most carefully prepared study of Eskimo life in the form of reading lessons. The language is not only simple, but also picturesque. The lessons grow gradually in richness of language, and yet do not sacrifice the presentation of vivid, accurate pictures of Eskimo life to the aim of teaching children to read by means of ringing repetitions and changes on a limited vocabulary. This presentation of arctic village scenes is so thoroughly made that it would seem as if scarcely a question concerning the Eskimos' solution of the problems of "food, clothing, and shelter" would remain unanswered in these pages. It is therefore a book that will be most helpful to use after these questions have been put to children and partially answered by their own inventive wit, rather than as an introduction to the subject. The illustrations are plentiful and well selected to fill out imagery where words are meager aids. The purpose of the book as concisely stated in this extract from the author's preface is well carried out: "Continual effort has been made to lead the child beyond the point of curiosity, into the realm of understanding, where alone true sympathy is born."

BERTHA PAYNE.

THE UNIVERSITY OF CHICAGO
School of Education.

EDITORIAL.

SOME CRITERIA IN THE JUDGMENT OF A SCHOOL.

ONE of the healthful features in the movement of modern education is that which tends to give greater publicity to the work of the schools. It is a far cry from the days when all academic learning was acquired in cloisters by a few of the elect. But even at the present time the public at large is only beginning to feel a deep personal interest in the daily work of the children—an interest sufficiently real to justify their taking days for frequent visitation. A glance through the old "Report Books" of the schools in fairly intelligent communities twenty-five or thirty years ago will show that weeks and months often passed without the registration of a single caller! Today, however, in the best schools the problem of showing due attention to the daily interested visitors is not the least of the teachers' cares. The patrons and public are at last honestly trying to find out what the schools are doing, and the schools must meet them at least half way.

To estimate correctly the worth of a good school is not an easy matter; to attempt to do so through what may be seen during a casual visit is impossible. It is a task to which he who would know the school must bring the power to discern what is essential and abiding in character-building and to distinguish it from the artificial and the ephemeral. This can be done only through careful and intelligent study. It follows, therefore, that the *growing tendencies* of the pupils should be more carefully considered than any fixed or definite results that may be produced at a given time. The latter may utterly belie the former either the one way or the other; even a tyro is well aware of their entire unreliability. The ability to read and write in itself counts for absolutely nothing; it is the *moral tendency* of the one who has acquired the ability that tells it all. Results, as tangible quantities, can be marked in per cents., and, upon these, pupils and schools have been graded. Tendencies, as moral qualities, cannot be estimated in such terms, and as a rule they play only a secondary part in gradation and promotion. Those who insist upon estimating a pupil or a school by the usual methods of marking are necessarily confined in their rating of values to those features which are in themselves inessential and unreliable as indications of true worth.

The value of the new school can be estimated in the home of the children as well as in the schoolhouse. Parents may apply a crucial, but nevertheless true, test of the intrinsic worth of the school by observing the attitude of the children toward the usual duties that fall within the routine of ordi-

nary life. If the tendency of the pupil is toward greater interest in the work of the home, toward greater proficiency in the performance, and, if with added years the tendency is toward an enlarged interest in public matters and a growing inclination to measure events according to moral standards, then the school may be accounted as doing its legitimate work. If the tendencies are otherwise, the school is of doubtful value.

The fundamental condition necessary to the proper development of moral tendencies in children is that of freedom. Schools of the ordinary type are instruments of restraint—of physical, mental, and moral repression. There is physical repression, through the stiff and artificial modes of recitation and work that are adopted in the supposed interests of order; mental repression, through the assignment of work that does not fall within the range of the pupils' true and natural interests; moral repression, through the arbitrary legislation or dictation of the teacher which pre-establishes the social and moral relationship of the pupils and leaves nothing for the individual or the society but blind obedience. The new school is an institution founded with the deliberate, avowed, and conscious purpose of maintaining for the pupils that degree of freedom which may be necessary for the highest efficiency in their work. It seeks to insure the physical freedom which is demanded by any workman in the untrammelled performance of his duties; mental freedom in the development of means by which his work may be done; and moral freedom to participate in the establishment of that social order under which all may labor with the greatest pleasure and effectiveness. One must expect to see in a school of this type many things which are out of harmony with the old ideas of "school order." He must be prepared to find considerable actual confusion present in any body that is permitted to attempt self-organization. The worth of the school at this point turns upon the genuine tendency exhibited by the pupils toward real disorder. If there is an honest effort to reduce the friction so that more and better work may be done, then present confusion counts for but little. If this tendency is lacking, then the confusion is indeed an evil. It must be remembered, too, that order in the best sense is in nowise directly proportioned to that outward calm that often prevails in the so-called orderly schools of the usual type. The unruffled exterior presented by the pupils may be the result of utter indifference and listlessness developed because there is little or no opportunity allowed for participation in educative work; or it may be but a thin crust of enforced quiet that holds raging rebellion and anarchy pent up within. In the former instance, the terms "order" and "disorder" are inapplicable; in the latter there is the most pernicious and dangerous kind of disorder.

Whether or not the school shall represent an evolution of upward tendencies must depend upon the stimulus derived from the thought-stuff and work-stuff upon which the pupils are employed. The value of this depends, in turn, upon its immediate purpose, and it follows, then, that the subject-matter

for study must be derived as directly as possible from the world's work as the children are able to see it at present. The old régime of the school-day, therefore, must be considerably broken, that, by visits to stores and factories, to farms, to the woods and swamps, and the lakeshore, the pupils may find out at first-hand just what is being done. Upon this supply of thought-stuff as a basis, only, are they able to draw with intelligence upon the sources of knowledge that are reached by the books, maps, and pictures of the schoolroom.

The time-honored and ancient forms of the recitation hour, with its stiff, stilted, and artificial methods, in which the pupil was tested mainly by the answers which he could give to the questions proposed by the teacher have practically no place in the best type of school. Instead, the pupil is measured rather by the number of problems which he himself proposes for consideration and solution. This renders the "assignment of lessons" by the page impossible; in place of this the lessons are prepared from the pages of many books used as references and from the direct study of appropriate materials by the scientific methods of observation. This makes the pupil more dependent upon the library and the laboratory, upon the fields and the shops, and the amount of "home work," so called, in the earlier stages of school life is greatly reduced. This line of procedure creates a tendency toward resourcefulness and self-reliance.

Freedom in thinking means, also, freedom in expression. The new school stimulates and demands an amount and variety in expression not dreamed of in the old. Children outside of school have always drawn, painted, modeled, and made the things they loved, as far at least as their own inventions as to materials and means permitted. But once within the school, these modes of self-development were denied them—logically enough, for the school itself furnished nothing which called for their use. The school work of the present demands, now, a model in clay or sand; now, a drawing on paper or on the blackboard, or a picture in color; now, something to be made in the shops, or to be woven on the looms. Hence the fatalistic character of the old daily program, in which all of the day's happenings were foreordained for a term or a year in advance, is almost entirely changed. Instead of diminishing the attention that must be given to the "three R's," the plan of work in the new schools has increased it many fold. The libraries, now forming a part of the necessary equipment of every good school, are the silent but unimpeachable witnesses to the vastly increased demand for reading and its yoke-fellow, writing. The practical character of the problems which confront the pupils involves the use of number and form to such an extent that the ancient and stereotyped forms of the arithmetic lesson are rendered unnecessary.

The constant participation of the pupils in the actual doings of the people naturally arouses in them the ebb and flow of emotions that has marked the history of the race. Upon this fact rests the dramatic work of the school.

This reaches its climax in the celebration of festivals and events which themselves mark great culminations of thought and feeling in racial history. These fête days belong to every age and to every people. The emotions of the children are derived from the same sources of nature and life that originally gave birth to the celebrations among men. Consequently they enter into the study of the people of all times with a purpose strengthened with that feeling of kinship which gives a fervor to their expression and action utterly unknown in the old "school exhibition." The celebration of Thanksgiving, Christmas, Easter, really in their essence great nature festivals, and of great events of history, therefore, becomes inevitably a part of the work of the school, because they are a great part of the actual life of man.

These features of the new school have displaced the more familiar ones of the old, because of their direct value in the lives of the children. That they are as yet novel, unexpected, and unfamiliar to most people is evidenced by the frequent remark of visitors: "I have enjoyed this day with the children very much, but I should like to visit some time when the school is engaged in *its regular work* (!)" not realizing that the regularities of the old are the irregularities of the new. The school has become an institution of ideals, because ideals are the ultimate measure of life; to know and to understand the school, therefore, one must use the same tests that are applied to life.

WILBUR S. JACKMAN.

BOOKS RECEIVED.

- Child Stories from the Masters*: Being a few Modest Interpretations of Some Phases of the Master Works Done in a Child Way. By Maud Menefee. Chicago: Rand, McNally & Co., 1899. Pp. 104, 12mo; cloth.
- A Child's Garden of Verses*, illustrated by E. Mars and M. H. Squire. By Robert Louis Stevenson. Chicago: Rand, McNally & Co., 1902. Pp. 93, 12mo; cloth.
- Classic Myths*, illustrated by Angus MacDonall. By Mary Catherine Judd. Chicago: Rand, McNally & Co., 1894. Pp. 204, 12mo; cloth.
- Danny*. By Alfred Ollivant. New York: Doubleday, Page & Co., 1892. Pp. 425, 8mo; cloth.
- Elementary Studies in Insect Life*. By Samuel J. Hunter. Topeka: Crane & Co., 1902. Pp. 344, 12mo; cloth.
- Eskimo Stories*. By Smith, Mary E. E.; illustrated by Howard V. Brown. Chicago: Rand, McNally & Co., 1902. Pp. 189, 12mo; cloth.
- Four Old Greeks: Achilles, Herakles, Dionysos, Alkestis*, with Drawings from Greek Sources by Raymond Perry. By Jennie Hall. Chicago: Rand, McNally & Co. Pp. 224, 12mo; cloth.
- The Holton Primer*. By M. Adelaide Holton. Chicago: Rand, McNally & Co., 1902. Pp. 111, 12mo; cloth.
- How to Attract the Birds, and Other Talks about Bird Neighbours*. By Neltje Blanchan. New York: Doubleday, Page & Co., 1902. Pp. 224, 12mo; cloth.
- Language through Nature, Literature, and Art*. By H. Avis Purdue and Sarah E. Griswold. Chicago: Rand, McNally & Co., 1902. Pp. 238, 12mo; cloth.
- The Sunbonnet Babies' Primer*, illustrated by Bertha L. Corbett. By Eulalie Osgood Grover. Chicago: Rand, McNally & Co., 1902. Pp. 109, 12mo; cloth.
- Adventures of Torqua*: Being the Life and Remarkable Adventures of Three Boys, Refugees on the Island of Santa Catalina (Pimug-na) in the Eighteenth Century. By Charles Frederick Holder. Boston: Little, Brown & Co., 1902. Pp. 282, 12mo; cloth.
- Annual Report of the Smithsonian Institution for the Year Ending June 30, 1901*. Washington: 1902. Pp. 782, 8vo; cloth.
- The Arithmetic Primer*: An Independent Number Book Designed to Precede Any Series of Arithmetics. By Frank H. Hall. New York: Werner School Book Co., 1901. Pp. 108, 12mo; cloth.
- The Atlas Speller*. By Frank R. Dyer. Chicago: Central School Supply House, 1902. Pp. 128, 12mo; boards.
- The Cricket on the Hearth*. By Charles Dickens, edited by G. B. Aiton and illustrated by G. C. Widney. Chicago: Rand, McNally & Co. Pp. 176, 12mo; cloth.
- The Gold Bug*. By Edgar Allan Poe, edited by Theda Goldmeister and illustrated by G. C. Widney. Chicago: Rand, McNally & Co., 1902. Pp. 111, 12mo; cloth.

THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

SOZODONT

A perfect Dentifrice for the

Teeth and Mouth

SOZODONT LIQUID . . . 25c
SOZODONT TOOTH POWDER . . . 25c
Large LIQUID and POWDER . . . 75c

25^c

A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

HALL & RUCKEL, New York.

MENNEN'S



Delightful After Bathing
A Luxury After Shaving
Beautifies and Preserves the Complexion

A positive relief for **Chapped Hands, Chafing,** and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get **Mennen's** (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25c.

AVOID HARMFUL IMITATIONS. (SAMPLE FREE.)
GERHARD MENNEN CO., Newark, N. J.

A Year's Insurance Against Disease



A Bottle Will Last a Family a Month

Platt's Chlorides, *The Odorless Disinfectant*

The daily use of just a little of this powerful liquid ensures pure air in the home, and a bottle will last the average family a month. Sold only in quart bottles by druggists and high-class grocers. Prepared only by **HENRY B. PLATT, New York.**



From the United States Official Census Report

"In 1895 Messrs. Wilcox and White of Meriden, Conn., began manufacturing an interior attachment, and in February, 1897, built their first 'ANGELUS,' a cabinet piano player. This instrument, the invention of E. H. White, may be regarded as the pioneer of the various similar attachments which have since been placed upon the market."

Although we are justly proud of having placed before the public the pioneer piano player, the *Angelus* (an instrument by means of which anyone can play any piano, and which has created a new industry), yet we realize that our pre-eminence must be maintained by progress, so we are continually applying our experience, our skill and ingenuity to improving and perfecting our instrument. Today we declare that there is no piano player which has such complete and ingenious expression devices as has the *Angelus*; moreover, we make a style (The *Angelus* Orchestral) which contains finely voiced reeds, with which the performer may produce most charming effects in conjunction with the piano.

Illustrated book given to inquirers.

THE WILCOX & WHITE CO.

Main Offices and Factory, Meriden, Conn., U. S. A.

SOLD BY

The Oliver Ditson Co., Boston.
John Wanamaker, New York.
Juelg & Co., Baltimore and Washington.
John Wanamaker, Philadelphia.
S. Hamilton, Pittsburg.
Geo. P. Bent, Chicago.
The Estey Co., St. Louis.
Sherman, Clay & Co., San Francisco.
The W. G. Woodmansee Piano Co., Cincinnati.
The J. T. Wamlink & Sons Piano Co., Cleveland.
J. Herbert Marshall, Regent House, Regent St., London
And other local agencies throughout the country.

CROWN PIANOS

*Noble in Tone
Chaste in Appearance
Durability Unquestioned*

GEO. P. BENT
Manufacturer Chicago



ORCHESTRA

Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog. Illustrated, mailed free. It's a money-saver.
LYON & HEALY, 35 Adams St., Chicago, Ill.
The World's Largest Music House. Sells "Everything Known in Music."

PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Upright beautiful new Uprights at \$100. Also \$135, \$150 and \$165. A magnificent instrument at \$299, fully equal to many \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything Known in Music."



Rare Old Violins

Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 35 Adams St. Chicago.

"RIDE A COCKHORSE TO BANBURY CROSS,
TO SEE A FINE LADY UPON A WHITE HORSE,
RINGS ON HER FINGERS, AND BELLS ON HER TOES,
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME
TO HER GLAD INFANT, THE WHILE KEEPING TIME,
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.
THROUGH
MRS. WINSLOW'S SOOTHING SYRUP
OVER FIFTY YEARS SOLD
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

WHEN THOMAS A. EDISON, SR., invented the phonograph, the whole world applauded and wondered. Later, when he produced the electric light, the people of all the earth gave him homage as the worker of marvels. Now, as a splendid climax to the work done for humanity, Thomas A. Edison, Jr., son of the illustrious wizard, gives to the world his Magno-Electric Vitalizer, the best and most beneficent of all wonderful inventions.

Again has science labored and brought forth a marvel. This time the product is one of electricity—the Magno-Electric Vitalizer—and its inventor is none other than Thomas A. Edison, Jr., son of that great wizard who has given to the world so many wonders.

The Magno-Electric Vitalizer is now being offered to the public with absolute assurance that it will fill a long-felt want.

Electricity has transformed the world and why shouldn't it transform the world's methods of curing its sick? This is the reasoning of Thomas A. Edison, Jr., in his presentation of the Magno-Electric Vitalizer. This invention has already commanded the attention of medical men and of the laity in all parts of the world.

It is being placed on the market by Mr. Edison's own company, the Thomas A. Edison Jr. Chemical Co., No. 14, Stone St., New York. Upon application, a book containing complete information will be sent free to all who may be interested in the cure of disease by electricity.

Address correspondence Dept. P.

Dr. Deimel
(Linen-)
Underwear

All genuine Dr. Deimel garments bear this trade-mark.

Don't smother yourself with w underclothing, but wear the Dr. I Linen Undergarments and give th a chance to breathe. You'll be w and healthier all winter long.

Booklet, telling all about it, with samples, free. Address

The Deimel Linen Mesh

(Originators of Linen Mesh)

Dept. Q. 43-491 Broadway, New Y.

SAN FRANCISCO, CAL., 111 Montgo
WASHINGTON, D. C., 728 Fifteenth St
BROOKLYN, N. Y., 550 F
MONTREAL, CAN., 2202 St. Cath
LONDON, W. C., ENG., 83 Strand (Cec



MANY ADVANTAGES

Perfect in fit, never ragged or uncomfortable. convenient, stylish, economical. Made of fine cloth exactly resemble linen goods. Turn down collar reversible and give double service.

NO LAUNDRY WORK.

When soiled, discard. Ten collars or five p cuffs, 25c. By mail, 30c. Send 6c. in U. S. stamps sample collar or pair of cuffs. Name size and style. REVERSIBLE COLLAR CO., Dept. 12, B

THE SMITH PREMIER TYPEWRITER
is a landmark of every well regulated
business community.



THE SMITH PREMIER TYPEWRITER CO.
SYRACUSE, N.Y. U.S.A.

THE BEST
SEND FOR CATALOGUE

**FIFTY
STYLES**



PAUL E. WIRT
FOUNTAIN PEN
ALL DEALERS OR ADDRESS BLOOMSBURG, PA.

WHY not use a clean Fountain
Pen, one that will write and
write always, without skipping,
blotting, or scratching?

The above Fountain Pen is and
has been sold on its merits all over
the world for sixteen years, and is
unconditionally guaranteed.



THE EARLIEST
HAMMOND
DOES BETTER WORK
THAN THE NEWEST
MACHINE OF ANY
OTHER MAKE

The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

The only polyglot using on the same machine,
one hundred type shuttles, in twenty-six languages, in-
stantly interchangeable.

An indestructible machine. Will last
generations and outlive ten type-bar machines. Writes
like print—prints like writing.

The best manifolder. The one machine
producing perfect and permanent alignment with uni-
form impression.



**The Hammond
Typewriter
Company**

69th to 70th Street, East River

New York, N. Y.



"THE NAME IS EVERYTHING."

Esterbrook

on a pen is an absolute
guarantee of its excellence

ESTERBROOK & CO'S RELIEF No. 314 is
a smooth pointed
stub pen. Try it.
Over 150 varieties of
other styles to suit
every purpose. All
stationers have them.
Accept no substitute.

THE ESTERBROOK STEEL PEN CO.

Works, Camden, N. J. 26 John Street, N. Y.

SPENCERIAN

The Standard of
Excellence for
over forty years

STEEL PENS



Select a pen for your writing from
a sample card of special numbers for cor-
respondence. 12 pens for 10c., postpaid.

SPENCERIAN PEN CO.

349 Broadway, NEW YORK CITY

A POINT IN THE RIGHT

DIRECTION

Is our advice to try

Dixon's American Graphite Pencils.

The satisfaction of using a pen-
cil that always does what is ex-
pected of it, sharpens to a fine
point, and in which the lead
doesn't break, either in sharp-
ening or use, is not one of the
least comforts to a busy person.

Dixon's Leads Don't Break.

Their grades never vary.
Pencils for all uses,

each one bearing our trade-
mark, the best of its kind.

*If not sold by your dealer, send us
10c. for samples worth double.*

Joseph Dixon Crucible Co.,
Jersey City, N. J.



Densmore Does More

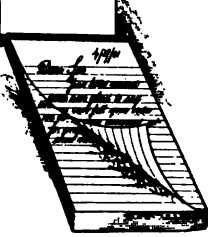


Ask
About It

**Densmore Typewriter
Company**

309 Broadway, New York

**CARBON LETTER
BOOK**
MANUFACTURED BY
A. D. Childs & Co.
Stationers
100-112 Monroe St. Chicago



Copy Your Letter While You Write

BY USING THE

CARBON LETTER TAB

Letter Copying Made Cheaper, Cleaner, and More Convenient

100 Letters and 100 Copies in Each Book. Bound in Board
Covers with Carbon, Ready for Use

Letter Size (8½ x 11), Ruled or Plain **\$0.75**
Note Size (6 x 9½), Ruled or Plain **.50**

Sent postpaid on receipt of price

S. D. CHILDS & CO.

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

Insert your letter—turn

the crank—and your copy's made.
No wet cloths to handle—no
damp blotters to arrange—no
screwing down letter-press.

It stands always ready.
The pressure of the copy-
ing-rollers is always the
same. Never a blurred letter,
nor an indistinct copy.

Every copy clean
and perfect—
no faint copies
to guess at.
Copies made
on the RAPID
ROLLER LET-
TER COPIER can be
filed right with the
letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,

Rochester, N. Y.

Branches in N. Y., Phila.,
Boston, Chi., San F., and
seven other cities.



Big Four Route

FROM
CHICAGO
TO

Indianapolis, Cincinnati, Louisville,
the
South and Southeast.

DIRECT LINE TO
Asheville, N. C., and Florida.

THE SCENIC LINE TO
Virginia Hot Springs and Washington, D. C.
via the picturesque
CHESAPEAKE & OHIO R'Y.

W. J. LYNCH, G.P. & T.A. W. P. DEPPE, Ass't G.P. & T.A.

CINCINNATI, O.

J. C. TUCKER, G.N.A. 234 Clark St., CHICAGO

"MODERN" MIDDLE JOINT FOUNTAIN PENS



The Largest and Best Gold Pens
The Highest Class Fountain Pens

Do not leak at the joint; hold more
ink than others because they can
be filled full

All forms of Fountain Pens, at moderate prices, including Automatic Self-Filling and Old Joint

If no local dealer has a good assortment of "MODERN" Pens, send direct to the makers,

A. A. Waterman & Co, Dept G, 22 Thames St, New York

Burpee's Seeds Grow

Probably you have heard of this famous motto for many years but have *you* proved for yourself that Burpee's Seeds are the

BEST that Grow?

If not, write to-day for Burpee's Farm Annual for 1903—so well-known as "The Leading American Seed Catalogue." It is an elegant book of 184 pages, with beautiful colored plates and will be sent **FREE** to planters everywhere; —to others upon receipt of 10 cents, which is less than cost per copy in quarter-million editions. Write **T O-D A Y**. Do not delay! It is sufficient to address simply

BURPEE, Philadelphia

"AFTER ALL **CARTER'S INK** IS THE BEST"



An Old Bookkeeper is Discriminating

Better take his advice and use **CARTER'S**
Send for booklet "Inklings"—Free
THE CARTER'S INK CO. - BOSTON, MASS.

WABASH

New Short Line

BETWEEN

CHICAGO AND TOLEDO

THROUGH PULLMAN SERVICE

FREE RECLINING CHAIR CARS

ALL WABASH TRAINS

C. S. CRANE

G. P. & T. AGENT
ST. LOUIS

F. A. PALMER

A. G. P. AGENT
CHICAGO

A Wonderful Material! PANTASOTE

Waterproof—Greaseproof—Stainproof

Also Germproof and **FIREPROOF**! Unlike other leather substitutes, it contains no cellulose, rubber or other dangerous and objectionable substances, and is also *entirely odorless*.

Pantasote does not peel or crack, is not affected by heat, cold or climate. Looks like Morocco leather, wears better and costs half. Tested nine years with unqualified success. Made in plain leather grains or richly embossed designs all standard colors.

A Piece
18 x 18 in.
for 25 cents
in stamps.
Free sample
15 x 6 in. for
5c. stamp and
your upholsterer's address.



Awarded GOLD MEDAL at Buffalo.

CAUTION—There are dangerous and worthless imitations; genuine has Pantasote stamped on goods.

PANTASOTE CO., Dept. Z, 11 Broadway, New York

PROFESSIONAL
Reading Courses

MINISTERS
TEACHERS
and BIBLE
STUDENTS

will be interested in

FIVE NEW COURSES

1. The Teaching of the Apostles
2. The Wisdom Literature of the Old Testament
3. Early Church History
4. Important Books of the Year
5. Pedagogical Course for Sunday-School Teachers

*The above are added
to the list of ten
subjects already in
progress in the : :*

Bible Students' Reading Guild

OF

*The American Institute of Sacred
Literature*

Send for announcements

HYDE PARK, CHICAGO, ILL.

Dining Cars Service à la Carte

ROSES are always on the tables,
and delicate china, glass and
silver add to the pleasure of a dinner
well cooked and daintily served

All the Season's Delicacies
at Very Moderate Prices

**Burlington
Route**

OUR 8,000 miles of rail-
road reach out from
Chicago, Peoria and
St. Louis to all the important
cities in the west and north-
west such as

ST. PAUL
MINNEAPOLIS
OMAHA
KANSAS CITY
DENVER

If you are going to any of
these places or to the Pacific
coast, kindly let me send you
time tables and other informa-
tion about our train service.

P. S. EUSTIS,
Gen'l Pass. Agt., C. B. & Q. R. R.,
CHICAGO, ILL.

SUFFERERS FROM DYSPEPSIA AND OTHER STOMACH TROUBLES

Can Find Quick Relief by Using

Glycozone

an **absolutely harmless** germicide.
It subdues the inflammation of the
mucous membrane of the stomach,
thus removing the cause of the disease,
and effects a cure.

For any stomach trouble it will do
good and generally cure.

Used and recommended by leading
physicians.

Sold by leading druggists.

FREE I will send by mail on receipt of
20c., to cover **actual postage**, a
liberal sample, that will **prove the claims** I
make to your entire satisfaction. This prepara-
tion cannot harm you, and in most cases gives
wonderful results. Address

Prof. Charles Marchand

59 W. Prince St., New York.

The Most Fashionable Perfume

You will **not** find it in **every** store.

It is **not** used by **everybody**.

Sold at the **best** stores only.

Used by **refined** people only.

EAU DE COLOGNE

Johann Maria Farina

Sternengasse 9-11 in Köln.



Queen Alexandra says:

There is something fascinating about users of 9-11
Cologne. It is certainly the most delicious per-
fume; it invigorates and refreshes.

INSIST on 9-11 Cologne and TAKE NO OTHER.

Import office, 1-3 Ann Street, New York.

Jaeger
PURE WOOL UNDERWEAR

Protects
Against
Temperature Changes.

**The Standard Sanitary
Underwear for Men, Women
and Children.**

Endorsed by Leading Physicians.

Also various JAEGER Novelties and
Specialties.

Don't forget that the Best is the Cheap-
est and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

Pan-Peptogen

A Food-Remedy for Indigestion.

Pan-Peptogen aids the weak and disordered stomach by helping it to do its work. It is not in itself a digestive agent, but supplies the elements which enable the enfeebled stomach to do its work properly.

Pan-Peptogen is not a drug, but a food that builds up the entire system while it is healing and strengthening the suffering stomach. It is the result of over .25 years of research and experiment, and is without doubt the most effective remedy for digestive disorders ever discovered.

For interesting descriptive matter in regard to this remarkable food remedy, address Pan-Peptogen Co., Ltd., 53 North Washington Avenue, Battle Creek, Michigan.

R. R. Donnelley & Sons Co.

The Lakeside Press

PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



Correspondence Instruction

credit is given so that the time of required residence for the Bachelor and Doctor's degrees is materially shortened. The work offered includes courses in **Theology, Philosophy, History, Pedagogy, Sociology, the Languages, Literature, and Mathematics.**

Circulars giving detailed information may be had by addressing

THE CORRESPONDENCE-STUDY DEPARTMENT,

The University of Chicago, Chicago, Ill.

The University of Chicago offers advantages for non-resident students through its Correspondence-Study Department which cannot be surpassed. Degrees are not granted upon work done wholly by correspondence, but when the courses are completed at the University,

Kayler's



LICORICE TABLETS,
(5 & 10¢ PACKAGES.)
FOR COUGHS & COLDS.
MADE WITH PURE SPANISH LICORICE.



GLYCERINE TABLETS,
(10¢ POCKET TINS.)
FOR RELIEF OF
HOARSENESS & THROAT AFFECTIONS.



ITALIAN PEPPS,
(10¢ ALUMINUM POCKET PACKET.)
A HANDY POCKET STAMP BOX WHEN EMPTY.



GUM IMPERIALS,
(10¢ ALUMINUM BOXES.)
ASSORTED PURE FLAVORINGS.

IF NOT SOLD BY YOUR DRUGGIST,
MAILED FREE UPON RECEIPT OF PRICE.
Kayler's 863 BROADWAY, N.Y.CITY.



LIEBIG

COMPANY'S

EXTRACT OF BEEF

GENUINE SIGNED:

J. Liebig
IN BLUE

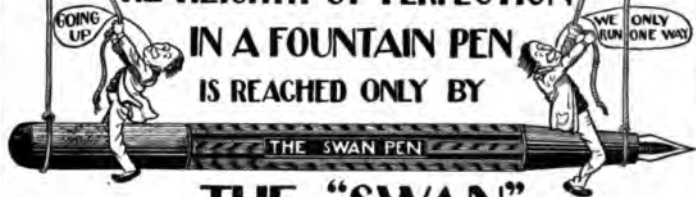
HELP for the
HOUSEWIFE



PERFECTION

THE HEIGHT OF PERFECTION

IN A FOUNTAIN PEN
IS REACHED ONLY BY



J.F.S. JONES

THE "SWAN."

SELF-
CLEANING
AND
FILLING;
DOES
NOT
DROP
INK.

FOR SALE AT
THE EXCLUSIVE PEN STORE
96 STATE STREET, (STEWART BUILDING) CHICAGO
MABIE, TODD & BARD

The University of Chicago Decennial Publications

FIRST SERIES. The First Series consists of ten volumes representing the work of research of the several Departments of the University. These articles are also issued in separate form as reprints. Size, quarto.

SECOND SERIES. The following octavo volumes of the Second Series are announced:

Wager's Life and Repentance of Marie Magdalene

Edited, with an Introduction, Notes, and Glossarial Index, by FREDERIC IVES CARPENTER. pp. xxxv + 91, cloth, *net*, \$1.00; postpaid, \$1.08.

The Second Bank of the United States

By RALPH C. H. CATTERALL. pp. xiv + 534, cloth, *net*, \$3.00; postpaid, \$3.20.

The Poems of Anne Countess of Winchilsea

From the original edition of 1713 and from unpublished manuscripts. Edited, with an Introduction and Notes, by MYRA REYNOLDS. pp. cxxx + 436, cloth, *net*, \$2.50; postpaid, \$2.65.

Assyrian and Babylonian Letters Belonging to the Kouyunjik Collection of the British Museum

By ROBERT FRANCIS HARPER. pp. xvi + 142, cloth, *net*, \$6.00; postpaid, \$6.12.

Light Waves and Their Uses

With 108 drawings and three colored plates. By ALBERT A. MICHELSON. 164 pp., cloth, *net*, \$2.00; postpaid, \$2.15.

La Perfecta Casada.

Por el M^{ESTRO} F. LUYA DE LEON. Texto del Siglo XVI. Reimpresion de la tercera edicion, con variantes de la primera, y un prólogo. Por ELIZABETH WALLACE. pp. xxvii + 119, *net*, \$1.00; postpaid, \$1.08.

The Role of Diffusion and Osmotic Pressure in Plants

By BURTON E. LIVINGSTON. (In press).

Legal Tender: A Study in English and American Monetary History

By SOPHONISBA P. BRECKENRIDGE. (In press).

A History of the Greenbacks. With Special Reference to the Economic Consequences of their Issue

By WESLEY CLAIR MITCHELL. (In press).

Studies in Logical Theory

Edited by JOHN DEWEY, with the cooperation of members of the Department of Philosophy and of the Graduate School. (In preparation).

Lectures on Calculus of Variations

By OSKAR BOLZA. (In preparation).

Studies in General Physiology

By JACQUES LOEB. (In preparation).

The Finality of the Christian Religion

By GEORGE BURMAN FOSTER. (In preparation).

The Study of Stellar Evolution

By GEORGE E. HALE. (In preparation).

Predecessors of Goethe in Italy in the Eighteenth Century

By CAMILLO VON KLENZE. (In preparation).

Glacial Studies in Greenland

By THOMAS C. CHAMBERLIN. (In preparation).

The Place of Apocalyptic Messianism in the New Testament

By SHAILER MATHEWS. (In preparation).

UNIVERSITY OF CHICAGO PRESS, CHICAGO, ILL.

THOROUGH BIBLE INSTRUCTION AT HOME

Under the Instruction of Teachers in
the Highest Institutions of the Country

Courses of reading and study embracing all grades
from the Elementary to the Professional
TEN THOUSAND STUDENTS AT WORK

Address for new and complete calendar of announcements

The American Institute of Sacred Literature

HYDE PARK, CHICAGO, ILLINOIS



In Twenty Years
THE
Remington
TYPEWRITER

*has saved the world enough
labor to build an Empire.*

WYCKOFF, SEAMANS & BENEDICT
(Remington Typewriter Company)
327 Broadway New York

**To the Land of
Fruits and Flowers**

FLORIDA

*Through Sleepers every night,
leaving Dearborn Station, 9:00 p.m.*

Passing thro' the beautiful Cumber-
land mountain region by daylight,
and arriving at St. Augustine at a
convenient hour in the morning

CITY TICKET OFFICE
232 CLARK STREET
C H I C A G O

THE REGINA

surpasses all other music boxes in
its marvellous tone and exquisite
workmanship. Its repertoire is in-
exhaustible. A signed guarantee
accompanies each box.



No. 21. Price,
\$10.00. In oak or
mahogany. Plays
by turning handle.
Of splendid tone,
and especially de-
sirable for children.



No. 11. Price, **\$75.00.** Long running
movement of great volume and sweetness of
tone. Tune sheets, 15½ inches diameter.
List of tunes No. 1.



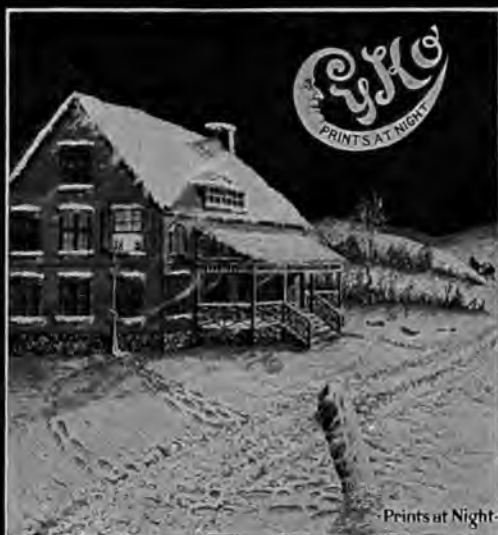
No. 40. Price,
\$125.00 Combination
Music Box and Tune
Disk Cabinet—using
the famous No. 11
movement. Finished in
Rookwood, Vernis
Martin, Marqueterie
and Venetian Wal-
nut, of exquisite beau-
ty and workmanship.



Write for our catalogue
showing our full line, cost-
ing from \$10 to \$400—with
lists of new music—free.
Address Dept. Z.



REGINA MUSIC BOX CO.
REGINA BLDG., NEW YORK or 259 WABASH AVE., CHICAGO



CYKO

**A NIGHT
PRINTING
PAPER**

No Dark Room Required

Makes Beautiful Prints in
black and white

**THE ONLY PAPER FOR WINTER
... SCENES ...**

One dozen 4 x 5 Cyko with
developer, 20 cents, of your
dealer, or

THE ANTHONY & SCOVILL CO.
122-124 Fifth Ave., New York
Atlas Block, Chicago

Skilful Photographers

appreciate the fact that, in catching swiftly-moving objects, perfect definition is impossible with the ordinary lens. If you wish to do the best possible work, insist upon having your camera fitted with the best possible lens. A fair trial will convince you that

THE GOERZ LENS

is the best lens made. It is unequalled for speed, definition, depth of focus, even illumination, and covering power. **The Goerz Lens** is a little higher in price. Try it, and see why. If your dealer is honest with you, he will tell you that **The Goerz Double-Anastigmat Lens** is the highest type of photographic lens made. For prices, circulars, etc., ask your dealer, or address

G. P. GOERZ OPTICAL WORKS

Room 6 No. 52 East
Union Square

New York City

Order Your STATIONERY : : BY MAIL : :

The University of Chicago Press

has exceptional facilities for filling mail orders
for the latest styles of stationery and other
fine papers

An Excellent Line of Whiting's Standard Fine Writing Papers

in all the latest styles, kept regularly in stock, both in
boxes and by the quire

Whiting's Number One Quality and Standard Linen

are especially recommended

Monogram Embossed Paper and Pads of all Sizes

*Orders taken for Fine Engraved
Calling Cards at Reasonable Prices*

THE UNIVERSITY OF CHICAGO PRESS

Retail Department : : CHICAGO, ILLINOIS



ART CALENDAR

Four graceful poses from life; figures ten inches
high, reproduced in colors. Highest example
of lithographic art.

"THE ONLY WAY"

to own one of these beautiful calendars is
to send twenty-five cents, with name of publi-
cation in which you read this advertisement,
to **GEO. J. CHARLTON**, General Passenger Agent,
Chicago & Alton Railway, 328 Monadnock
Building, CHICAGO, ILL.

The best railway line between CHICAGO,
ST. LOUIS, KANSAS CITY and PEORIA.

\$ 3000.⁰⁰/₁₀₀

Rochester, N.Y. Aug. 1 1902

Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World
Three Thousand ⁰⁰/₁₀₀ Dollars

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Premo, Poco and other hand cameras with B. & L. Lenses being provided.

Bausch & Lomb Optical Co

ROCHESTER, N. Y.

Who will send full information on request.

THE UNIVERSITY OF CHICAGO PRESS Contributions to Education

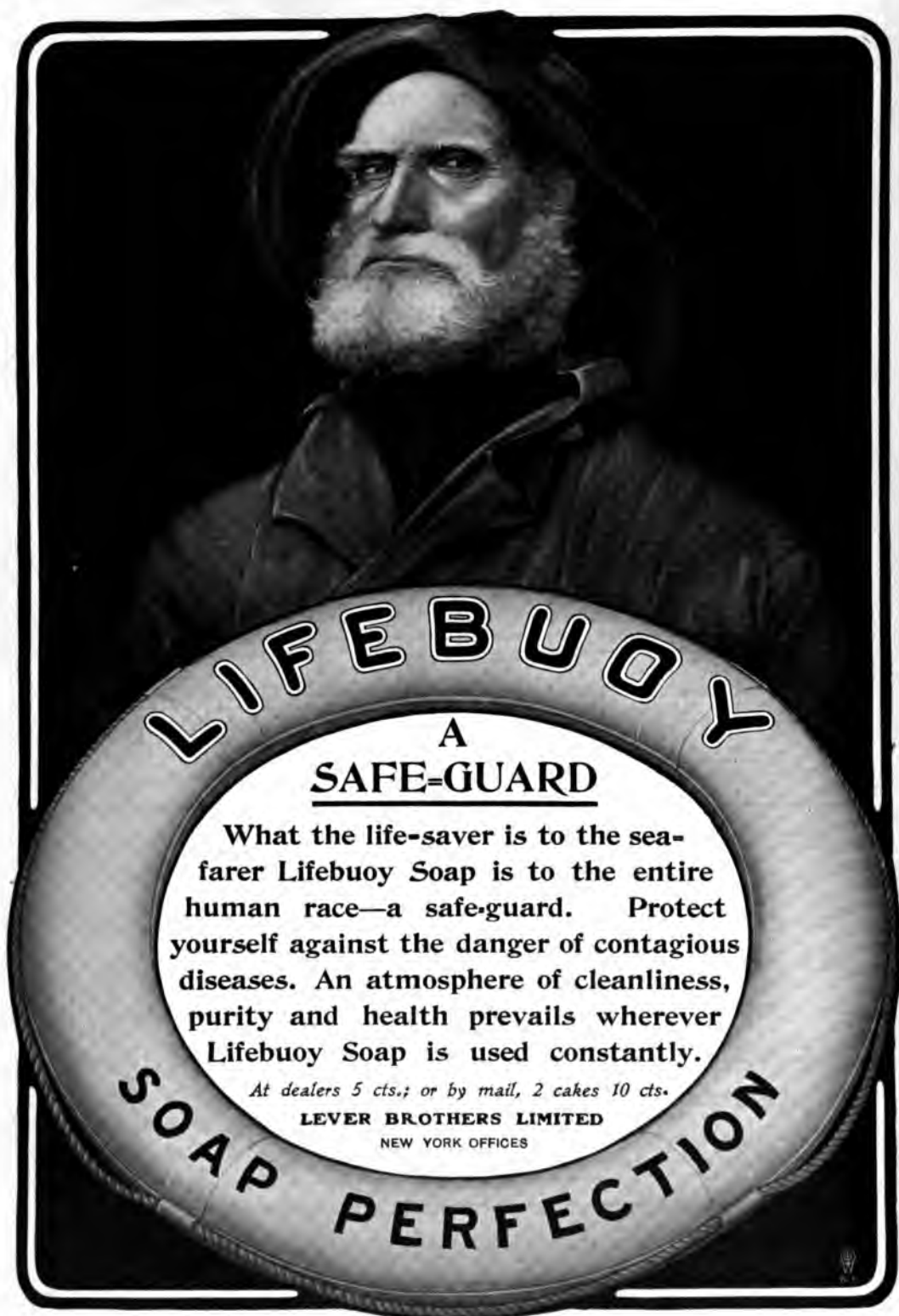
By JOHN DEWEY, Professor and Head of Department of Philosophy in the University of Chicago, and ELLA FLAGG YOUNG, Professor of Education in the University of Chicago.

The series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy.

- | | |
|---|---|
| No. 1. ISOLATION IN THE SCHOOL
12mo, paper, net, 50 cents | By ELLA FLAGG YOUNG
postpaid, 54 cents |
| No. 2. PSYCHOLOGY AND SOCIAL PRACTICE
12mo, paper, net, 25 cents | By JOHN DEWEY
postpaid, 27 cents |
| No. 3. THE EDUCATIONAL SITUATION
12mo, paper, net, 50 cents | By JOHN DEWEY
postpaid, 53 cents |
| No. 4. ETHICS IN THE SCHOOL
12mo, paper, net, 25 cents | By ELLA FLAGG YOUNG
postpaid, 27 cents |
| No. 5. THE CHILD AND THE CURRICULUM
12mo, paper, net, 25 cents | postpaid, 28 cents By JOHN DEWEY |
| No. 6. TYPES OF MODERN EDUCATIONAL THEORY
12mo, paper, net, 25 cents | By ELLA FLAGG YOUNG
postpaid, 28 cents |
- Price for series on one order to same address, net, \$1.50; postpaid, \$1.67

For Sale by Dealers
or

The University of Chicago Press, Chicago, Illinois



LIFEBUOY

A
SAFE-GUARD

What the life-saver is to the seafarer Lifebuoy Soap is to the entire human race—a safe-guard. Protect yourself against the danger of contagious diseases. An atmosphere of cleanliness, purity and health prevails wherever Lifebuoy Soap is used constantly.

At dealers 5 cts.; or by mail, 2 cakes 10 cts.

LEVER BROTHERS LIMITED

NEW YORK OFFICES

SOAP PERFECTION

BUFFALO LITHIA WATER In All Forms of Bright's Disease, Albuminuria of Pregnancy, Uric Acid Diathesis, Gout, Rheumatism, Lithæmia, Renal Calculi, and Stone of the Bladder, Etc., Etc.

Dr. George Ben Johnston, Richmond, Va., ex-President Medical Society of Virginia and Professor of Gynecology and Abdominal Surgery, Medical College of Virginia: "IF I WERE ASKED WHAT MINERAL WATER HAS THE WIDEST RANGE OF USEFULNESS, I WOULD UNHESITATINGLY ANSWER BUFFALO LITHIA. It is a most valuable remedy in many obscure and stubborn conditions which, at best, yield slowly, if at all, to drugs. In URIC ACID DIATHESIS, GOUT, RHEUMATISM, LITHÆMIA, and the like, its beneficial effects are prompt and lasting.

"Almost any case of Pyelitis and Cystitis will be alleviated by it and many cured.

"I have had evidence of the undoubted DISINTEGRATING, SOLVENT, and ELIMINATING POWERS of this water IN RENAL CALCULUS, and have known its long continued use to permanently break up the gravel-forming habit.

"It is an agent of great value in the treatment of the Albuminuria of Pregnancy, and is an excellent diuretic in Scarlatina and Typhoid Fever. In all forms of BRIGHT'S DISEASE, except those hopelessly advanced, its good effects are pronounced. I believe it has been the means of prolonging many lives in this trouble."

John V. Shoemaker, M.D., LL.D., Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, etc., in the New York Medical Journal, June 22, 1899: "The **BUFFALO LITHIA WATER** is DOUBLY EFFICIENT in Rheumatism and Gout. It dissolves Uric Acid and Phosphatic sediments, as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the Kidneys and Bladder. The intense suffering produced by Stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination. Unquestionably, although the speedy removal of Uric Acid and other products of faulty tissue change is of conspicuous benefit, yet to PREVENT their formation is a service still more important. This service is performed by the **BUFFALO LITHIA WATER** when it corrects those digestive failures which are responsible for the production of deleterious materials."

James L. Cabell, M.D., A.M., LL.D., Formerly Professor of Physiology and Surgery in the Medical Department of the University of Virginia, and President of the National Board of Health, says: "**BUFFALO LITHIA WATER** in Uric Acid Diathesis is a well-known therapeutic resource. It should be recognized by the profession as an article of Materia Medica."

Dr. J. W. Mallet, Professor of Chemistry, University of Virginia. (Extract from report of analysis of Calculi discharged by patients under the action of **BUFFALO LITHIA WATER** Spring No. 2):

"It seems on the whole probable that the action of the water is PRIMARILY and MAINLY upon URIC ACID and the URATES, but when these constituents occur along with and as cementing matter to Phosphatic or Oxalic Calculus materials, the latter may be so detached and broken down as to disintegrate the Calculus as a whole in these cases, also thus admitting of Urethral discharge."

Spring No. 1 is both a NERVE and a BLOOD TONIC, and in PALE, FEEBLE, and ANÆMIC SUBJECTS is to be preferred. In the absence of these symptoms No. 2 is to be preferred.

BUFFALO LITHIA WATER is for sale by Grocers and Druggists generally.

Testimonials which defy all imputation or questions sent to any address.

PROPRIETOR - BUFFALO LITHIA SPRINGS - VIRGINIA

Finest in the World
**BAKER'S
 COCOA**



—
 LOOK
 AT
 THE
 LABEL
 —

—
 TAKE
 NO
 OTHER
 —

CHOICE RECIPES, 50 PAGES, SENT FREE
WALTER BAKER & CO. Ltd.
 ESTABLISHED 1780. DORCHESTER, MASS.
40 Highest Awards in Europe and America

**WEBER
 PIANOS**

UNQUESTIONED
 IN QUALITY

—
 UNEQUALED
 IN TONE
 —

CATALOGUE MAILED FREE ON REQUEST

THE WEBER PIANO COMPANY
 108 FIFTH AVENUE, NEW YORK
 266 WABASH AVENUE, CHICAGO

HER TINS AND BRASSES ALL AGLOW
 MY LADY'S FINGERS NOW
 ARE LOVELY MADE AND WHITE AS SNOW



BY USING
HAND SAPOLIO

Vose PIANOS

have been established over 40 YEARS. By our system of payments every family in moderate circumstances can own a Vose piano. We take old instruments in exchange and deliver the new ones in your home free of expense.

Write for Catalogue D and explanations.

VOLUME III

NUMBER 6

The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

CONTENTS FOR FEBRUARY, 1903

THE FUNCTION OF SCIENTIFIC STUDY IN A TRUE EDUCATION

THOMAS CHROWDER CHAMBERLAIN 337

THE SELECTION OF MATERIAL

SAMUEL T. DUTTON 346

AN OUTLINE OF A YEAR'S WORK IN HISTORY FOR FOURTH GRADE



FEBRUARY, 1903

Chicago: The University of Chicago Press
Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1903, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second-class matter, October 30, 1900



Finest in the World  
**BAKER'S  
COCOA**



—  
LOOK  
AT  
THE  
LABEL  
—

TAKE  
NO  
OTHER

**WEBER  
PIANOS**

UNQUESTIONED  
IN QUALITY

—  
UNEQUALED  
IN TONE  
—



"This only is the witchcraft  
I have us'd"

# The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*ELLA F. YOUNG, *Managing Editor*

## CONTENTS FOR FEBRUARY, 1903

|                                                                                                                                                                          |                                         |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----|
| THE FUNCTION OF SCIENTIFIC STUDY IN A TRUE EDUCATION                                                                                                                     | THOMAS CHROWDER CHAMBERLAIN             | 337 |
| THE SELECTION OF MATERIAL                                                                                                                                                | SAMUEL T. DUTTON                        | 346 |
| AN OUTLINE OF A YEAR'S WORK IN HISTORY FOR FOURTH GRADE                                                                                                                  | VIOLA DERATT                            | 352 |
| CHARACTER-STUDY AND EDUCATION. I                                                                                                                                         | THOMAS P. BAILEY, JR.                   | 355 |
| MARCH                                                                                                                                                                    | ELEANOR SMITH                           | 364 |
| THE IMPORTANCE OF INDIRECT MEASUREMENT IN ELEMENTARY MATHEMATICAL TEACHING                                                                                               | GEORGE W. MYERS                         | 368 |
| MANUAL TRAINING                                                                                                                                                          | ELIZABETH E. LANGLEY AND ANNETTE BUTLER | 377 |
| KINDERGARTEN PROGRAMS                                                                                                                                                    | ANNE ELIZABETH ALLEN                    | 380 |
| GRADE OUTLINES:                                                                                                                                                          |                                         |     |
| FIRST GRADE                                                                                                                                                              | BERTHA PAYNE                            | 384 |
| SECOND GRADE                                                                                                                                                             | CLARA ISABEL MITCHELL                   | 386 |
| THIRD GRADE                                                                                                                                                              | GUDRUN THORNE-THOMSEN                   | 391 |
| SIXTH GRADE                                                                                                                                                              | MARY REED                               | 393 |
| SEVENTH GRADE                                                                                                                                                            | ELSIE AMY WYGANT                        | 395 |
| EIGHTH GRADE                                                                                                                                                             | KATHARINE M. STILWELL                   | 399 |
| BOOK REVIEWS:                                                                                                                                                            |                                         |     |
| <i>Mark</i> : Individuality and the Moral Aim in American Education; Moral Education in American Schools; Education and Industry in the United States, FLORENCE HOLBROOK |                                         | 402 |
| EDITORIAL                                                                                                                                                                |                                         | 405 |
| BOOKS RECEIVED                                                                                                                                                           |                                         | 408 |

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

**THE UNIVERSITY OF CHICAGO PRESS,**

**CHICAGO, ILLINOIS**



# NOTABLE NEW BOOKS

## THE MORSE READERS

Practical Graded Text, Five Books

By THOS. M. BALLIET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Sure to give satisfaction.

**MORSE'S EDUCATIONAL SYSTEM** and the **NATURAL-MOVEMENT METHOD COPY BOOKS** (Medial.) Many original features but thoroughly practical. *20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material.* Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

## THE MORSE COMPANY

8 Beacon St., BOSTON

96 Fifth Ave., NEW YORK

195 Wabash Ave., CHICAGO

### SOME IMPORTANT

## BOOKS ON EDUCATION

**The School and Society.** By JOHN DEWEY. (Third edition.) Supplemented by a statement of the Laboratory School of the University of Chicago. 130 pp., 12mo, cloth. \$1.00.

**The Prospects of the Small College.** By PRESIDENT WILLIAM R. HARPER. 50 pp., 12mo, paper. *Net*, \$0.25.

**Report of the Educational Commission of the City of Chicago.** The commission was appointed by HON. CARTER H. HARRISON, January 19, 1898, and the report is edited by PRESIDENT WILLIAM R. HARPER. (Second edition.) 250 pp., royal 8vo, paper. *Net*, \$1.00.

**The Education of Business-Men.** A View of the Organization and Courses of Study in Commercial High Schools of Europe. By EDMUND J. JAMES. 232 pp., 8vo, paper. *Net*, \$0.50.

**The Philosophy of the Humanities.** By THOMAS FITZ-HUGH. 63 pp., royal 8vo, paper. *Net*, \$0.50.

FOR SALE BY BOOKDEALERS OR BY THE PUBLISHERS  
THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois

## Back Numbers of **The Elementary School Teacher Wanted** ∴ ∴ ∴

WE are desirous of securing several copies of *The Elementary School Teacher*, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers **The University of Chicago Press, Chicago, Illinois**

# A Unique Language Book

## Language Through Nature, Literature, and Art

By H. AVIS PERDUE, *of the Keith School, Chicago*, and SARAH E. GRISWOLD, *of the Chicago Normal School, Chicago*. With 12 full-page and 145 text illustrations. Cloth, 238 pages; 45 cents.

The teaching of language in the primary grades has an importance that is not always recognized. The child's growing imagination is full of visions and his experiences crowded with new meanings that seek expression in oral and written language. The way in which these are expressed determines largely the correctness or incorrectness of his later use of language. At present the language work of these grades is practically unorganized, and the child takes up the first book in formal grammar with little or no preparation.

"Language through Nature, Literature, and Art" is the simplest language book yet issued, and is intended for use in the third and fourth grades of public schools before the study of formal grammar is begun. It is carefully graded and presents only the necessary facts for simple and correct writing.

It is a Language Book throughout, but the work is based on the three subjects of Nature, Literature, and Art in such a way as to give the book special significance. In addition to the work in language there are three distinct courses of study in the book.

## RAND, McNALLY & COMPANY

*Educational Publishers*

*Chicago New York London Berlin*

### For Use in Secondary Schools

#### History

|                                                 |        |
|-------------------------------------------------|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England              | 1.25   |
| Botsford—History of Greece                      | 1.10   |
| Botsford—History of Rome                        | 1.10   |
| Adams—Medieval and Modern History               | 1.10   |
| Adams—Growth of French Nation                   | 1.25   |
| Adams—European History                          | 1.40   |

#### Science

|                                       |      |
|---------------------------------------|------|
| Bailey—Elementary Botany              | 1.10 |
| Davenport—Introduction to Zoölogy     | 1.10 |
| Crew—Elements of Physics              | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography    | 1.40 |
| Tarr—Elementary Geology               | 1.40 |

#### Mathematics

|                                             |      |
|---------------------------------------------|------|
| Fisher & Schwatt—Secondary Algebra          | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond      | .90  |
| Holgate—Elementary Geometry                 | 1.10 |

#### English

|                                                               |      |
|---------------------------------------------------------------|------|
| Carpenter—Rhetoric, First High-School Course                  | .60  |
| Carpenter—Rhetoric, Second High-School Course                 | .50  |
| Lewis—Introduction to the Study of Literature                 | 1.00 |
| Carpenter—Principles of English Grammar                       | .75  |
| Pocket English and American Classics (34 volumes ready), each | .25  |

*The Macmillan Company*

378-388 WABASH AVE., CHICAGO

*New York Boston Atlanta San Francisco*

## School Books in a hurry

And at New York prices, singly or by the dozen, may be obtained *second-hand or new*, by any boy or girl in the remotest hamlet, or any teacher or official anywhere, and

## Delivery prepaid

Brand new, complete alphabetical catalogue, *free*, of school books of *all publishers*, if you mention this ad.

**HINDS & NOBLE**

31-33-35 W. 15th St., New York City.

## The James F. McCullough Teachers' Agency

*Fine Arts Building, Chicago*

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—**Try McCullough.**

Hundreds of Teachers Have Annually Been Benefited

## The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager

378-388 Wabash Avenue • CHICAGO

SEND FOR "OUR PLATFORM"

**VERY  
ATTRACTIVE**

IS

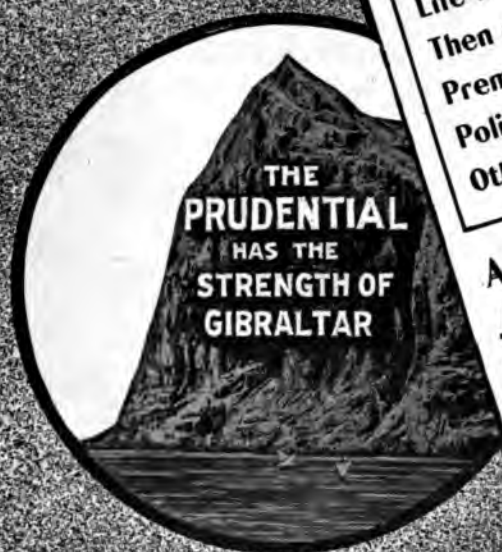
The Participating  
20 Payment Life Policy  
OF

**The Prudential**

Premiums to be Paid 20 Years.  
Life Insurance for 20 Years,  
Then a Liberal Cash Dividend.  
Premiums Stop.  
Policy Continues for Life.  
Other Options of Settlement.

Amounts \$100,000 to \$500.  
Ages 16 to 65.

Write for Specimen Policy  
Showing Cost and other  
Valuable Privileges. Dept. 25



**The Prudential**

INSURANCE CO. OF AMERICA

JOHN F. DRYDEN, Pres.

HOME OFFICE: NEWARK, N.J.

# THE ELEMENTARY SCHOOL TEACHER

FEBRUARY, 1903

## THE FUNCTION OF SCIENTIFIC STUDY IN A TRUE EDUCATION.

WHEN I was a young man fresh from college, heavily laden with the wisdom of a liberal education, it was an easy matter to discuss the fundamental problems of education. I usually began, as was quite the fashion of scholarly men in those days, with a display of my Latin. The word "education," I affirmed—and I had often heard erudite educators make the same assertion—is derived from the Latin words *e* and *duco*. *E* signifies "out of," and *duco* means "I lead." Therefore to "educate" is "to lead out." Hence education does not consist in storing the mind with information, but in drawing out its powers. Discipline is the essential thing; the getting of knowledge is secondary. So we said. And we proceeded to make distinctions between subjects, and to set up and to put down. There were "disciplinary studies" and "information studies," and we lauded the disciplinary studies and we deprecated the information studies. We pointed out the truly good studies, and the quite indifferent studies, and we maintained that the truly good studies gave a liberal education and made broad, balanced, all-around men, so disciplined that they were fitted for almost any sphere in life. Into whatever vocation they might be called, men so educated would only need to pick up the special information of the business, and then their all-around discipline and wide culture would render them strong and able and fitted for success; indeed, even stronger and abler and better fitted than if they had given their time to the special training of the vocation. And thus we set up an aristocracy of subjects and tabooed other subjects as plebeian. Out of the largeness of our minds and the liberality

of our broad culture we exalted the favored few and contemned the rest. And in doing this we thought verily we were bringing learning to the aid of true education and were doing the great cause noble service.

But since those happy days of scholastic exaltation, I have had occasion to see something of the world as it is. I have even learned some things about Latin. I have found out that there is such a Latin word as *educare*, and that this word *educare* means "to nourish." It now appears that there are scholars who contend that the word "education" comes from this *educare*, and not from *e duco*. If this be so, "education" should mean the "nourishment of the mind." To nourish the mind is obviously to feed it with knowledge. For aught that now appears, then, we may flourish our Latin in support of the thesis that education is the acquirement of knowledge. The Latin will accommodate itself to the purpose of the advocate of either side, if selectively handled. Unfortunately, however, for the time-honored cause of discipline, one of our latest and ablest lexicons, edited by one of America's most noted philologists, takes pains to say that "there is no authority for the common statement that the primary sense of *educate* is to draw out or unfold the powers of the mind."

To the student of the real truth about education it is of no consequence whatsoever what the word means. It would not alter the nature or function of education one whit if it were called *chimo* or *chee foo*. So far as the real question is concerned, all this quotation of Latin is vanity, vanity, vanity.

When I was a member of the Euglossian Debating Society, which met at the district schoolhouse, we discussed on one occasion the profound question, "Which is most necessary to man, air or water?" This memorable debate comes forcibly to my mind when I hear educators discussing the relative values of "discipline" and "information" in education. A youth may become educated on "discipline" alone about as successfully as he may live on air alone. He may become educated on "information" alone about as successfully as he may live on water alone. If there be doubt on this matter let us put it to test in a

tangible case. But let us not choose a phase of education so elusive and occult that we are likely to misunderstand each other when we talk about it. Rather let us select a function that is so tangible that there is no danger of mystification; for example, physical culture, just now in high vogue. What success could be anticipated if one set about educating his muscles by exercising them without nourishing them, or by nourishing them without exercising them? No better success, I think, would be attained with any other faculty or function similarly treated. It seems to me impossible properly to develop any mental faculty or function by exercising it without its approximate substance of thought, or by filling it with information without exercising it, if either thing were altogether possible. Each alike is futile without the other. Strenuous exercise of the mind without due substance of thought is as harmful as strenuous exercise of the muscles without due nourishment. The mightiest engine ever made is worthless without fuel. The richest of the coal beds can move no machinery unless burned in an engine. The traditional controversy between disciplinary studies and information studies is a controversy between partisans *both of whom are wrong*. The true education is conditioned on a proper combination of knowledge and of thinking, on a proper matching of information and of discipline. St. Paul said on a like subject: "Show me thy faith without thy works, and I will show thee my faith by my works." "Show me thy discipline without thy knowledge, and I will show thee my discipline by my knowledge," says the true scholar.

More than this, it is impossible to think properly on a subject without information relative to it. Ample knowledge is absolutely essential to the best thinking. Discipline without information is a delusion and a snare. The metaphysical disquisitions of mediæval times have given us abundant illustrations of this.

But this is not all. Neither discipline, in the old sense, nor information, in the similar sense, nor both together, represent the highest factor in education. It is not sufficient to learn what is already known. It is not sufficient to think the thoughts of others after them. To be fitted for a really intellectual life it is

necessary to learn some things that are not known, to think some thoughts that have never been thought before ; to grapple with new questions and to grapple anew with old questions ; to investigate on one's own account. There come to every person fulfilling any worthy place in life new problems that must be solved by themselves and for themselves. I do not mean that it is the function of every person to make new discoveries in science or new creations in literature, but every individual life brings individual problems. These precise problems have never been presented to any other being. They cannot be solved by simply imitating something that can be learned, nor by repeating the thoughts of anyone who has gone before. They are new and original questions, and must be solved by original research. To be prepared for these questions the student should be trained in finding out new truth for himself ; in other words, should be trained in independent research.

A complete education involves other factors, which time compels me to pass. I lay special stress on these because they especially concern the life which is immediately before the youth of today.

The subjects of education are divisible into two great classes: those which relate to the constitution of things, and those which relate to human devices and conventions ; in other words, those which pertain to the divine creation and those which pertain to man's creation ; or, in still other words, the natural sciences and the artificial sciences ; the first includes the fundamental constitution of matter and the relations of matter to matter, the nature of energy and the relations of energies to energies, the formation of the earth and the host of heaven, the nature of life and its laws, the nature and functions of man himself ; in short, those things which we recognize as the works of God. The latter involves those things which man has brought into existence as the result of his choice, his invention, his artifice, or his whim ; the habits, customs, fashions, devices, and institutions of man, his languages, his political and social institutions, his industries, his ordinances, his varied creations.

What part shall the work of God and the ordinances of God

have in the curriculum of a well-ordered school? These works and these ordinances are fundamental, for they condition our very existence. Not a breath do we draw, not a thought do we think, without the aid of chemical, physical, and biological activities. Our length of life and our success in action and in thought are conditioned by these indispensable functions within our persons and in our environment. The most extraordinary advances made in recent years in the preservation of life and the reduction of suffering have arisen from a study of these ordinances of our being and of our environment. If there were no other grounds for urging their study, the preservation of life and the promotion of our well-being would alone justify apportioning a large measure of time to these subjects, since they hold in themselves the issues of life and death. What untold misery, what unspeakable sorrow, what manifold death would have been saved had these subjects been assiduously investigated by all the universities for the last thousand years and the results assiduously taught by all the other schools!

Permanence is characteristic of these subjects. Chemical, physical, biological, and planetary laws were in action millions of years ago, and with little doubt they will continue in action for millions of years to come. Compared with them, the conventions of man are ephemeral and evanescent. We talk of ancient history, meaning the story of certain peoples two and three thousand, or at most five or six thousand, years ago. These are but things of yesterday compared with the great history of the earth and the stars, or the story of life. In this quality of permanence and endurance the fundamental sciences bear a quality which the transient institutions and conventions of man do not possess.

If we turn to the secular side, it may be remarked that these subjects have great industrial value. It is needless to say that the sciences have made extremely important contributions to most of our great industries. So vital is their industrial bearing that the chief educational agitation in Europe during the last few years has hinged upon the commercial value of elementary education in the sciences. The gigantic strides which Germany has



made in commercial enterprise, under natural conditions not especially superior, have been quite surely due to the large attention given to these subjects in certain of her schools. The foremost nations are coming to recognize in scientific education a political factor of profound importance. If America is fully to establish and make permanent her leadership in the industrial world, it will be through training in the sciences, for by this in the future will leadership be conditioned.

As an element of individual equipment for the highest efficiency in many of the offices of life, a knowledge of the sciences is indispensable. In domestic economy, in sanitation, in many of the crafts, in agriculture, in pharmacy, in medicine, and even in law, in literature, and in the ministry, a large measure of familiarity with these subjects is of unquestionable value. No small familiarity is necessary to an intelligent reading of the publications of the day. Our magazines and our newspapers contain no trivial factor of sciences. It might be better, but, such as it is, it can be read with discriminating intelligence only through a knowledge of the fundamental sciences. This scientific factor is increasing year by year, and will certainly continue to grow during the next generation. To discriminate the good from the bad, at least elementary scientific schooling is requisite. We are daily becoming more and more dependent on scientific appliances. To deal intelligently with these, scientific instruction is needful.

As a training, the study of the sciences possesses its own peculiar value. It is not my function here to compare the disciplinary value of the natural sciences with that of the conventional sciences, but the high value of the former in intellectual training may be affirmed without hesitation. Their peculiar advantages as instruments of training lie in their tangible demonstrative character. Their field is rigorously controlled by law. Even though the combination of agencies be intricate and the results complex and obscure, law reigns and a rigorous mental procedure is demanded to secure the truth.

The sciences have peculiar value in training the mind to appreciate the co-operation of different agencies in a given phenome-

non. It is not sufficient to know that a certain cause is operating in a certain phenomenon, and that a certain effect will be produced by it. It is necessary to know whether there are not other factors involved which will overwhelm it and produce an entirely different outcome. Questions of this class make up most of the issues of life. Very rarely does a single cause work alone to produce its own independent result. For the most part, the questions of life involve a combination of several influences, acting in different degrees, and the outcome is determined by the measure of participation of the respective factors. It is necessary to evaluate these and combine them to foresee the true result. Now this is eminently true of the problems of the natural sciences, and the training which they give in discriminating and evaluating the constituent factors is precisely that kind of discipline needed for the solution of the complex problems of life. This kind of discipline is not equally possible in some of the other subjects of study, because they are in their very nature selective and simple.

The disciplinary value of the sciences is greatly enhanced by experimentation. Scientific problems are solved, not simply by reasoning upon them, but by putting them to trial. There grows out of this an ability to test questions by experimentation, and withal a fixed disposition to do so. As a result, the mind so trained is less willing to rest upon simple reasoning, subject, as it is, to pitfalls here and there, but is predisposed to bring every question to the test of actual trial.

There has grown up with the sciences a distinctive mode of work, known as the scientific method. It is distinguished from previous methods in its constant appeal to observation and experiment, and to rigorous induction from these. Now, this scientific method is confessedly superior to all previous methods. It is coming to be the distinctive method of the age. It is being gradually introduced into other departments of thought and will at length beyond question come to be practically the one universal method of research. To the acquirement of this method the study of the natural sciences is the obvious avenue. To fail to acquire this method of intellectual procedure is to fail to acquire

the highest and best method of modern times. If, therefore, the youths of today are to be prepared for the distinctive intellectual work of the next half-century, they should be trained in scientific work by the scientific method. The importance of this may not be fully appreciated today, but it will be realized twenty, thirty, forty years hence, when the youths of today are in the midst of mature life and taking part in its great battles.

The study of the sciences is helpful in bringing our youths into the spirit of the age, and aids them in being a living factor in it. The spirit of the age is a spirit of progress. The motto of the age is "On! On! On!" New truths, new philosophies, new inventions, new discoveries, new remedies, are the glory of our time, and the glory of science as well. But, while the spirit of science is one of unhesitating progress, it does not plunge recklessly into any scheme that may offer allurements to some promised good. It proceeds by testing every new proposition by all the resources of the scientific method. What is proposed is not accepted simply because it is proposed or because it promises some desired benefit. It is merely made a working hypothesis and put to experimental trial in an appropriate way. All that a new proposition can hope for under the scientific spirit is investigation. It is the scientific practice to make trial in a small experimental way before great interests are put in jeopardy. The ancient physicians tried their remedies on man by the wholesale. The scientific physician of today makes his tests on a few animals under close observation. When the scientific spirit shall control in the social and political world, we will make similar small experimental trials before we jeopardize the great interests of the nation by plunging heedlessly into revolutionary proceedings. Science is eminently progressive and has only anathema for opposition to progress, but its progress is based on cautious study, careful observation, and preliminary trial. It does not hold on to past measures until their accumulated weaknesses bring on a collapse and then recklessly swing over to some other practice, only to invite another collapse and reaction. Its mode is to move steadily and unhesitatingly, but yet carefully, on. When this mode comes

to be dominant in civic and social life, it will be as great a boon to them as it already is to industrial life. It is therefore of the highest importance to the future of the American people that this conjoined spirit of progress and conservation shall come to be the dominant trait of our people.

Scientific studies carry with themselves distinctive moral attitudes which eminently commend them as factors in the curriculum of youth. Chief among these is their firm loyalty to truth. No matter what may have been previous beliefs and preferences, the true scientific student revises his views as evidence requires. Authority, tradition, current opinion all go for naught in the face of clear evidence. A readiness to abandon error and substitute truth is a prime quality in true scientific work. A devoted loyalty to the realities within us and about us, whether they accord with what we wish or not, is a fundamental trait of scientific morality.

I regret that time forbids me to dwell more at length upon the ethical aspects of scientific study. I must close with the remark that the enduring ordinances of creation are surely worthy of a large place in our studies beside the ephemeral devices of man; a study of the entities and energies that enter into the very constitution of the universe and of all its creatures deserves generous recognition, and the great histories of the whole may well form a groundwork for the little special histories in which we are more intimately and narrowly concerned.

THOMAS CHROWDER CHAMBERLIN.

DEPARTMENT OF GEOLOGY,  
The University of Chicago.

## THE SELECTION OF MATERIAL.

WHAT is most to be desired to-day is not more theory or more startling examples of radical practice, but rather that the rank and file of teachers throughout the country may grasp the commonplaces of educational thought and may live up to them. There is more conservatism abroad than is usually acknowledged. In town and city the life of the school is only partially redeemed from the mechanical methods of former days. The physical well-being of the child is not yet made of first importance. Fresh air, cheerful variety, rhythmic games, happy play, corrective gymnastics are too occasional and perfunctory. Motor training has barely scratched the surface of the teaching consciousness of America. Music as a highly nutritive element in child nurture is yet unrecognized even by directors of this branch. Too much time is given to the drill upon the forms and symbols of music, while the rich opportunities for the culture of the musical sense are neglected. Similar statements might be made about other portions of the curriculum.

Is there a remedy for these palpable defects? No doubt many remedies could be suggested, and I purpose to speak here at some length of one. It is that all along the line officials and directors of education pay more attention to the principles involved in the selection of material for teaching. Everybody believes that character is the end of education, and that a healthy body is of first account. It is known also that body, mind, and spirit are one, and that interest and feeling are the most potent allies of the will. Why, then, should there not be a more complete emancipation of the teacher from the old formal curriculum, and a larger range of choice, so that in the daily process of adapting means to end the teacher may be conscious of personal growth and may take professional pride in doing what is best for the child?

A moment's reflection will show that the living, growing teacher is the real dynamic power in every school. Nearly

every educational address in its peroration exalts the teacher and minimizes the importance of the curriculum and other school appliances. And yet I fear that the same educators who speak with such eloquence upon this subject return to their fields of labor where quantitation standards are enforced, and indulge themselves in a sort of comfortable feeling that the time has not yet arrived to seek these ideals in their particular field. They are content with a kind of excellent uniformity which subordinates the interests of the child to the school and its highly developed curriculum. Why not begin to live up to our knowledge and belief? The aphorism, "We learn by doing," is as good for the teacher as for the pupil. If men and women are once enthused with the great spiritual aims of teaching and training, they will experience a new love for their pupils and a new zeal for their work. If a part of the responsibility of selecting the activities of the school is placed upon them, there will be enterprise, invention, research, discovery, and conquest. Some will go far beyond others in their enthusiastic and courageous experimentation. There will be seen more and more of the scientific skill that has entered the fields of horticulture and stock-raising. The scientist, the artist, or the musician of today could do little of value were he obliged to wear shackles of any kind. Every creative work requires freedom both in design and execution. Shall the teacher be classed with the artist, the poet, and the architect, or with the policeman, the bookkeeper, or the seamstress? There is a crying need for largeness in the point of view of school superintendents and supervisors. The reform needed must begin at the top and work downward.

1. Personality emancipated and upheld by lofty ideals should be first, while the curriculum should be made second in importance. Excellence in teaching art is subjective rather than objective. Those teachers who have served time in subservient obedience to the requirements of a detailed curriculum are often confirmed invalids. They are like the poor creatures in *Barnaby Rudge*, who, being rescued by the mob from Newgate Prison, could not endure the freedom and confusion of the

street, and went back to their dungeons and their chains. What they need is not more restraint, but more careful, intellectual, and moral nursing during convalescence and until they are able to stand alone and act for themselves.

What is the meaning and value of all our pedagogical training in our normal schools and colleges, if it is not to develop ability and judgment in the selection and use of material? Even the skilled handicraftsman is permitted to select his own tools. Are we training teachers simply to follow and not rather to lead?

2. Superintendents and heads of departments may outline fields for investigation and study in such a way as to leave much room for choice and skilful planning by individual teachers. Whether it be geography, history, mathematics, physics, manual training, or the more general study of English, let the boundary lines of the subject be indicated and such suggestions made as will show the high premium that is to be awarded to originality and freshness of treatment. Let it be clearly seen that the thing asked for is not a text-book requirement or an examination standard. Let the curriculum be an earnest appeal to teachers and pupils to search for living realities. Whether the age of Pericles, of Charlemagne, of Queen Elizabeth, or of Washington be studied, present-day standards are to be used, and the comparative method is to be encouraged. The teacher, being free, is to lead her class into such an enthusiastic and intensive study as to make the current canons touching concentration and correlation seem of little account.

I have before me an octavo, one and one-half inches thick, containing a course of study for the schools of one of our largest cities. It is scholarly and elaborate. Every subject is worked out to the smallest detail. Few could have done the work better, but to the teachers of that city it is all second-hand material. It is placed in their hands as a product of superior knowledge and skill, and to follow it quite implicitly appears to be enjoined, not only by duty and conscience, but by the dictates of self-preservation. Here, then, we see school officials who ought to regard the spontaneous unfolding of the teacher's power as the

finest flower of a school system, taking away the opportunity of self-activity and freedom. A child cannot grow either in moral or intellectual power under these conditions, much less the teacher.

School administration in America should discover a higher function than the organizing and revising of the curriculum in such a way that teachers have only to follow the schedule. "The letter killeth, but the spirit maketh alive." How these Scripture words recall Colonel Parker and the gospel for which he stood! Surely the good work he began will not cease until there is freedom for every teacher in respect, not only of means, but also of methods.

3. With a broad and highly flexible curriculum an appeal may justly be made to the teacher for highly vitalized and studious effort. Diffident and doubtful at first, like a child learning to walk, he will soon rejoice in his strength. His brain will begin to teem with new possibilities and new devices. Instead of watching the clock for the time of dismissal, he is actually sorry to go home at night. By a sort of spiritual contagion his pupils are affected, as well as other teachers in the school. Under these conditions there is seen the newest of the new education.

Hitherto I have spoken chiefly of the obligation of the school official, and have tried to show that a teacher cannot do his best work unless he is free. Assuming that this is the case, something remains to be said about the particular part to be taken by the teacher in selection.

1. The amount and variety of subject-matter, like the amount and variety of food, are determined largely by appetite. I have an old friend who used to boast that he usually finished his meal with about the same appetite with which he began. The doctrine of interest influences every recitation in somewhat the same way. Selection is made with the child ever in the mind's eye. Where a class is involved the same rule holds good, but the skill required is greater. Select for interest at all hazards. This is not for entertainment, but for hard work that gives joy in the doing and leads to further achievement. This last sentence is



for the solace of the anti-imperialists in education who cannot bear to have the child happy in school and who long for the good old times when the school fostered *ennui*, humility, and wretchedness.

The fact that every human being accomplishes more and grows faster under the stimulus of interest is sure to affect teaching more and more as time goes on. The teacher will apply this truth in many ways. The culture-epoch theory comes to have a practical bearing. The beginnings of history will be found in the social life of early men, their aims and occupations. The teacher free to choose will discover nascent periods of growth and will adapt material accordingly. Myths, animal stories, tales of chivalry, pioneer stories, and other types of literature will each be fitted into its proper niche, for pupils will help in the selection, and their judgment is final. Nothing of this sort can happen where the curriculum is inflexible and where it is constructed upon strictly logical and subject-matter lines.

2. Under a freer selection the teacher may satisfy more fully the claims of motor ability. Here, too, in our most advanced schools there is a fatal restriction. A set of models in paper, wood, or iron looks well and is good as a foundation; but both special and class-room teachers must be encouraged to find opportunities for handwork that far transcend a limited and formal field. In field, forest, garden, shop, and schoolroom there are great possibilities. Whether in order to know social life by experience, or for the psychological ends of co-ordinating hand and brain, it makes little difference. The teacher of nature study, geography, or history who does not find many things to be done is not up to date.

3. I suspect that selection by the teacher would more often recognize the value of "rotation of crops." Suppose a class were permitted to drop any study for half a year for the sake of avoiding weariness and in order to attack some other subject more strenuously, I am sure the experiment would be fruitful. Says Guyau in his excellent book on *Education and Heredity*: "The temptation most difficult to resist in our modern society is that of completely exploiting our talents, of extricating from

them every particle of profit, and of bartering them for the maximum money and honor they can give. It is this unlimited exploiting of superiorities which renders them perilous." Fewer rows with fewer plants in a row bring the farmer his best crops. Add to that *rotation*, and we have a working formula for the selection and use of subject-matter.

4. All selection is to be made thoughtfully, keeping in mind the conditions involved. Central and typical truths and experiences are always best. Being rich and comprehensive in their relations, they preclude the necessity of an overcrowded curriculum. A lesson, like a sermon, is more valuable for its suggestiveness than for what it enforces *pro forma*. Teachers under proper encouragement will, in a given field, select what is practical and what relates itself to current life. The newspaper becomes a powerful aid. Books, papers, magazines, lantern slides, are useful means.

Space will not permit a fuller statement. I have tried to suggest a needed reform: To accomplish that reform, first, school officials should hesitate to "rush in where angels fear to tread," and, secondly, the teacher needs to be emancipated and his function enlarged so that his work may bear the stamp of free creative genius.

SAMUEL T. DUTTON.

TEACHERS COLLEGE,  
Columbia University.

## AN OUTLINE OF A YEAR'S WORK IN HISTORY FOR FOURTH GRADE.

THE work outlined below consists chiefly of the reading or telling of stories of travel and discovery. The intention is to suggest some ideas of the size of the earth and the variety of life to be found upon it. The stories also carry with them certain lines of development in human industry and knowledge simple enough to be comprehended by children of this age.

### SEPTEMBER.

Make a simple form of sailboat, a "catboat," in all respects like the actual working boat and intended for use in play. Visit docks on lakeshore or river and the ship-building docks at South Chicago. Gather information concerning the transportation by water from Chicago to other ports in the United States and Europe. Study pictures of typical forms of boats, from rafts and dugouts to modern ironclads and other steamships. Drawing and painting should be used as a means of study.

REFERENCES: Parker, *The Fleets of the World*; Cartault, *Trière Athénienne*; Bland, *Ships and Boats*; Busk, *Navies of the World*; Folkard, *The Sailing Boat*; Chauvenet, *Navigation*; Sommerfeldt, *Construction of Ships*; Very, *Navies of the World*; La Croix, *Military and Religious Life of the Middle Ages*; Knox, *Robert Fulton*; Hale, *Stories of Invention*; Parton, *Captains of Industry*; Wright, *Children's Stories of American Progress*; Torr, *Ancient Ships*; "Boats of Every Kind," *Harper's Magazine*, Vol. LXXII, p. 683; "Boats," *ibid.*, Vol. LXXV, p. 455; Vol. LV, p. 428; "The First Ocean Steamer," *ibid.*, Vol. I, p. 411; "A Group of American Girls," *ibid.*, Vol. XXXI, p. 163.

### OCTOBER.

Read or tell stories of the Vikings. The stories of Olaf Tryggveson and Leif Erikson are good for the purpose. Illustrate with pictures of northern scenery, houses, costume, boats, and weapons. Picture Iceland, Greenland, and the northeast coast of America. See Viking boat at Field Museum. Use as reading book Hall's *Viking Tales*.

REFERENCES: Sephton, *The Saga of Olaf*; Carlyle, "Early Kings of Norway," in *Critical and Miscellaneous Essays*; Vicary, "Olav the King," *Saga Times*; Mallett, *Northern Antiquities*; Keary, *The Vikings in Western Christendom*; Du Chaillu, *The Viking Age*; Keyser, *Private Life of the Old Northmen*; Morris and Magnusson, *Saga Library*, Vols. III, IV; Johnson, *The Normans in Europe*; Anderson, *Norse Mythology*; Litchfield, *The Nine Worlds*; King, *Geographical Reader*

"Northern Europe;" "The Old Norse Colonies of Greenland," *Harper's Magazine*, Vol. XLIV, p. 65; "Norse Mythology," *ibid.*, Vol. XLVI, p. 241; "Norsemens," *ibid.*, Vol. LXIII, p. 882; "The Visit of the Vikings," *ibid.*, Vol. LXV, p. 515; "Iceland," *ibid.*, Vol. XXVI, pp. 145, 289, 448; "Norway," *ibid.*, Vol. XXV, pp. 145, 289; "Norway," *ibid.*, Vol. XCVII, p. 99; "Norway Coast," *ibid.*, Vol. LXXXIX, p. 375; "Norway and Its People," *ibid.*, Vol. LXXVIII, pp. 419, 640, 801; "A Viking Ship," *Scribner's Magazine*, Vol. II, p. 604.

## NOVEMBER AND DECEMBER.

Tell stories of the crusades, emphasizing the features of discovery and travel. Study pictures and plan of Jerusalem, pictures of the Sepulcher, and Saracens. Tell of the palmers and pilgrims, their route across Europe and their reception on the way. Give description of Richard's fleet, the transports and warships. Picture the Saracenic life in the story of Saladin, and see what the crusaders learned from the Saracens. Stories from *The Arabian Nights* will give an idea of the luxury of oriental life.

REFERENCES: Michaud, *History of the Crusades*; Archer, *The Crusades*; Gray, *The Children's Crusade*; Abbott, *Richard I.*; Doran, *Knights and Their Days*; Draper, *Intellectual Development of Europe, Saracenic Culture*; Bulfinch, *Age of Chivalry*; Oman, *The Art of War in the Middle Ages*; Viollet-le-Duc, *Annals of a Fortress*; La Croix, *Manners, Customs, and Dress of the Middle Ages, Military and Religious Life of the Middle Ages, Science and Literature of the Middle Ages*; "Castle Life in the Middle Ages," *Scribner's Magazine*, Vol. V, p. 1; "Military Pyrotechnics in Former Days," *Harper's Magazine*, Vol. XXXIX, p. 35; "Besieging the Citadel," *ibid.*, Vol. VII, p. 592; "The Holy City," *ibid.*, Vol. XIV, p. 576; "Jerusalem," *ibid.*, Vol. XC, p. 546; "Arabians," *ibid.*, Vol. XC, p. 4; "Arabia," "Islam," *ibid.*, Vol. XCI, p. 625.

## JANUARY AND FEBRUARY.

Read the story of Marco Polo. Show stereopticon views and other pictures of Venice. As the various quarters of the city are shown, tell stories connected with them. *The Two Foscari*, *Marino Faliero*, *Dandolo*, *The Merchant of Venice*. *The Wedding of Venice and the Adriatic* may be used if the too savage details are omitted. Follow the journeys of the Polos, studying pictures and descriptions of the regions which they explored. Bring out the following points by means of the story: ignorance of the West concerning the East; prevalence of myths instead of knowledge; difficulties of travel; variety of scene, peoples, and customs encountered; industry and prosperity of the East; the sea on the east coast of the habitable world.

REFERENCES: Yriarte, *Venice*; Olyphant, *Makers of Venice*; Smith, *Gondola Days*; Ruskin, *Stories of Venice*; Taine, *Italian Cities, Venice*; Turnbull, *The Golden Book of Venice*; Hazlett, *The Venetian Republics*, Vols. III and IV; Blashfield, *Italian Cities*; Sismondi, *Italian Republics*; Brown, *Venetian Studies*; Brown, *Venice*; Brown, *Life on the Lagoons*; Mrs. E. L. Saxon, *City in the Sea*; Smedley, *Sketches from Venetian History*; Weil, *Venice*; Byron, *Poems*; Howells, *Venetian Life*; Villari, *On Tuscan Hills and Venetian Waters*; Gibbins, *History of Commerce in*

Europe; "Venice," *Century Magazine*, Vol. III, p. 1; "Venice," *Harper's Magazine*, Vol. XLV, p. 481; "Venice at Easter," *ibid.*, Vol. XC, p. 738; "Christmas in Venice," *ibid.*, Vol. LVI, p. 285; "On the Skirts of the Alps," *ibid.*, Vol. LIX, p. 641; Brooks, *Marco Polo*; Knox, *Marco Polo*; Towle, *Marco Polo*; Wright, *Marco Polo*; Yule, *Marco Polo*; Hale, *Stories of Adventure*; Payne, *History of America*; Yule, *Cathay and the Way Thither*; D'Anvers, *Forms of Land*; "Marco Polo and His Book," *Harper's Magazine*, Vol. XLVI, p. 1; "Caravan Journeys Through Central Asia," *ibid.*, Vol. XIV, p. 506; "A Caravan," *ibid.*, Vol. LXXXVII, p. 650.

#### MARCH, APRIL, AND MAY.

Read the story of Columbus. Make simple forms of instruments used in navigation, viz.: sandglass, cross-staff, compass, log. Use these in comparing time and distance. Read the account of Prince Henry of Portugal (see Seelye's *Life of Columbus*) and of the Portuguese attempts to reach India by following the African coast. Show pictures of the coasts discovered by Portuguese mariners. Study the ships of the time and mode of life on board. Tell the story of Vasco da Gama. Show pictures of the sea and read stories and poems to help the pictures. Study pictures of the West Indies and connect with what the children know of these islands today.

REFERENCES: "Hakluyt Society Publications;" *Journal of Columbus*; *Letters of Columbus*; *Vasco da Gama*; Irving, *Columbus*; N. Ponce de Léon, *The Caravels of Columbus*; Ford, *The Writings of Columbus*; Winsor, *Columbus*; Fiske, *Discovery of America*; Seelye, *Columbus*; Hale, *Columbus*; Knight, *Columbus*; *Idem.*, *Stories of Discovery*; Payne, *History of America*; Burton, *The Story of Our Country*; King, *This Continent of Ours*; Gilman, *Historical Readers*, Vol. I; Towle, *Vasco da Gama*; "Columbus," *Harper's Magazine*, Vol. XXXVIII, p. 721; *ibid.*, Vol. LXXXIV, p. 728; *ibid.*, Vol. LXXXV, p. 681; *ibid.*, Vol. LXV, p. 729; *ibid.*, Vol. XLVI, p. 640; *ibid.*, Vol. LIV, p. 1; *ibid.*, Vol. XX, p. 234; "Genoa," *ibid.*, Vol. VIII, p. 471; "West Indies," *ibid.*, Vol. XLVIII, p. 161.

#### JUNE.

Read the story of Magellan's voyage around the world. Connect with present knowledge of the Philippines.

REFERENCES: "Hakluyt Society Publications," *Magellan*; Fiske, *Discovery of America*; Guillemand, *Magellan*; Towle, *Magellan*; "Magellan," *Harper's Magazine*, Vol. LXXXI, p. 357; "Three Great Voyages," *ibid.*, Vol. XX, p. 234.

VIOLA DERATT.

THE UNIVERSITY OF CHICAGO  
SCHOOL OF EDUCATION.

## CHARACTER-STUDY AND EDUCATION.

### I.

LIKE all emotional movements of thought, child-study has had its waxing and its waning, and the waning is now upon us. Hardy and faithful, indeed, is the man or the woman who today speaks enthusiastically about studying "the child." But it would be shallow reasoning and absurd to hold that child-study is only one more worn out "fad." When physiologists cease studying the body, when psychologists are no longer interested in the mind, when physicians concern themselves no more with physical character, then will teachers cease to study children. True, certain methods and phases of child-study have ceased to attract attention, but even these have their value in a study of childhood that shall be all-sided and well balanced. As for those who believe themselves capable of understanding child-nature instinctively, and amuse themselves with more or less humorous comments on some child-study fantasies of recent years, let us quietly remind them that our common-sense knowledge of mind-matters does not make psychology useless; that our practical precepts in regard to health do not take the place of hygiene; that because the New Testament contains plentiful milk for babes there is no reason why strong men should not seek for the critical strong meat required by their constitutions. But just as we do not cease our casual observations of human nature because we are psychologists, nor refrain from using common-sense rules because we are hygienists or physicians, nor disallow the milk of the gospel because we are able to eat its strong meat—so in child-study, in becoming more or less scientific students of child-life we must not lose our "unpremeditated art" in dealing with actual children. Moreover, just as a knowledge of botany quickens the spontaneous love of nature in the heart of the spiritual man, so ought scientific child-study to make us become more deeply interested in all children, more sympathetic and tactful in dealing with them. If there should

prove to be any inconsistency between the spontaneous and the scientific interest in children, the spontaneous interest always has the right of way, because it is easy for loving intuition to prepare the way for scientific insight, but hard for science to beget sympathetic and tactful interest in children.

Now, with all its faults, the child-study of the last fifteen years has produced some good results: greater care for the children's health; enhanced interest in securing character-results, in education; greater appreciation of the complexity of child-nature, and of the immense importance of individual differences; attempts to ascertain the stages of development in children, and to fit the studies of the school to those stages rather than to accommodate the stages to the studies; a better realization of the profound importance of the stage of adolescence; closer co-operation between parents and teachers. Not that child-study alone has produced these results and others that might be mentioned (*e. g.*, the establishment of observation schools, experimental schools, and so on), but that child-study has helped on improvements that had already begun or were ready to begin.

Admitting, then, that child-study, even in its rawest and craziest aspects, has been useful to education, let us endeavor to point out some of its mistakes and shortcomings, so that we may clear the ground for a more healthy and vigorous growth of character-study; for perhaps the chief mistake of child-study has been a failure sufficiently to appreciate the unity of human nature in all ages and stages and phases of development. The child *is* the father of the man; we are our own great-grandfathers! And in our child-study we wish to investigate the *character* in "varying childness," rather than certain abstract psychological phases of *mind*. Let us shortly state some of the shortcomings that characterize much of the child-study of recent years; then we can discuss each point in turn:

1. Child-study has been too largely the psychology of processes and states of mind rather than tendencies of character.
2. It has been too largely an accumulation of facts without order and relation, or else the facts have been sorted by means of merely psychological canons.

3. It has studied detached groups of facts without investigating their connection with organic character, without sufficient reference to the facts of development, and without thorough-going use of the comparative method.

This statement will suffice for the logically minded reader who wants to see the forest before studying the trees.

1. *Child-study too psychological in its material.*—Just because psychologists have been the leaders in child-study, nearly all the best work has been done by psychologists, professional or amateur. Here are some of the topics studied: discrimination of color and sound; co-ordination of movements; laws of association and memory; categories of interest; imagination; religious *imagery* (not religious *instinct*); primary emotions; imitation; psychological processes in play and games; reasonings. Now, many of these studies have an interest and a value of their own, and therefrom psychologists may gain divers hints; but are they *child-studies*? They are studies relating to more or less immature minds, but do they help us to understand children's *conduct* and *tendencies of character*? The actual child is self-assertive, sympathetic, inquiring, gregarious, appropriative, dramatically expressive, tending to hero worship, and so on. These are some of the tendencies that determine his conduct and our discipline of his character. These relate him to his natural and social environment. Doubtless some studies have been made along these lines, but they have been psychological, dealing with mental *process*, rather than characterological (or ethological), dealing with *conduct*. It may be that apperception-masses and emotions and volitions and the like, will ultimately explain these tendencies of character. But in the meantime we want to know something about the instinctive springs of conduct of the human animal in a state of society. Before we can explain we must group and classify; before we can understand the molecular physics of character we must study its general mechanics. Or, to vary the figure, first the natural history of character, then its biology. We must not contend that the psychological study of character *must* wait until the study of instincts and tendencies has got well under way; indeed, it would



be vain babble to tell the human mind to limit its interest and activity in any direction. All we contend for is this: conduct is practically more important than process, character than mind, and in the normal development of science the natural-history method precedes the study of inner processes.

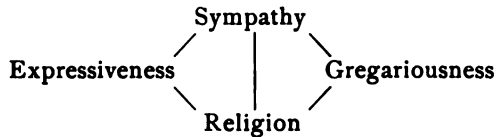
Since child-study is meant to be practically useful, and since psychology is a very difficult science, beyond the reach of most for whom child-study ought to be useful, then it would seem that we ought to study the human animal as he corresponds with his environment, in his instincts, habitual impulses, tendencies of conduct. Who can name the teachers or parents whose dealings with children have become wiser through psychological child-study? And how many of us are able to become interested in the depressing spectacle of a psychologizing primary teacher? While we must believe that the time will come when each teacher *can* be a practical psychologist, should we not in the meantime see to it that children's conduct becomes more understandable during all their periods of development? The Herbartian "general method" is a useful psychological *explanation of the steps* we generally take in teaching a topic; but we must know something about the child's instinctive tendencies of character, egoistic, altruistic, religious, social, economic, æsthetic, ethical, and the like, if we are to teach *children* rather than mental mechanisms.

2. *Character is organic and unitary, hence mere accumulations of data, with running commentaries thereon, have little practical or scientific value.*—Even if the material of child-study include facts of tendency and conduct, we need some concrete scheme whereby we may picture to ourselves the correlations of traits or tendencies, instead of simply sorting them in any convenient way we may happen to light on. Although some students of childhood apparently have thought that a sufficiently large assemblage of supposedly cognate facts would lead to an induction, thus far the "inductions" have failed to put in an appearance. True, Darwin achieved great results by collecting from all quarters in a manner seemingly without plan. But all who have read Darwin's life know how early in his career the organic conception of natural

selection was the mainspring of his interest and the organizing factor in his work. All great accumulators of facts are not Darwins, and all great constructive scientific minds have not been collectors of large masses of facts. Does it not produce a sort of intellectual vertigo to wade through a long array of unorganized "duly authenticated facts"? One's mind cries out "Lost! lost!" as the innumerable trees of "fact" close in around him. Even though the facts be about one child and are chronologically arranged, whatever our personal or human interest, we become weary unto death after a few pages of such reading.

Facts are valuable in proportion as they have significance, and that significance depends on their interrelation and their reference to some central thought or principle. Hypotheses are useless except as they bind facts together and give them significance, but facts are barren unless they relate themselves together according to a plan or hypothesis. One sufficiently crucial and significant fact may bring about an induction; libraries full of disconnected or merely empirically connected facts do nothing but serve as a monument to the patient stupidity of man. Hence, realizing this, the man with a *questionnaire* usually has a hypothesis he wishes to test, and he *ought to have it*. And many of us would be devoutly thankful if he would only frankly tell us what it is he is trying to test, prove, or verify. If we need hypothesis or tentative principle of classification in the material sciences, how much the more do we need such help when we study *character*, which is organic, unitary, microcosmic! If in embryology we must study pictorially and diagrammatically the organism as a whole and the interrelation of the parts; if in physiology we learn to picture the nervous system as the "master tissue, bringing the parts of the body into functional correlation," does it not seem plain that the embryology and physiology of character require the pictorial and diagrammatic aids whereby the scientific imagination can dispose its material in space? Is character at any level of development a mere jumble of traits and tendencies, or are these related in a picturable way? For instance, children are self-assertive, sympathetic, abounding in curiosity, gregarious, appropriative, expressive. How are

these tendencies related structurally and functionally, and how can these relationships be pictured? If descent can be symbolized in a genealogical table, why not the differentiation and integration of character-tendency? Give us some mode—pictorial, diagrammatic, representative, symbolic, illustrative—call it what you will—by means of which we may concretely correlate our facts, indicate the descent and kinship of tendencies, review with the eye of sense and imagination the interconnected levels of development. For instance, suppose I want to show that the religious impulse is a direct descendent of the sympathetic and collaterally related to gregariousness and childlike expressiveness, how better than with the aid of simple lines? Thus:



On the same diagram I can indicate that sympathy enters into both gregariousness and expressiveness. Suppose further that the desire for *property*, the proprietary sense, buds out about the same time as religion and has its own system of relationships; how almost impossible it is to show that the proprietary and religious instincts are on the same level, are correlated, have cognate instincts that are correlated with each, and that both develop into further differentiations—I say, how extremely difficult to hold these relationships in mind without using diagrams! Just as the organs and functions of the developing animal are correlated, so is it with the impulses and instincts that are the springs of conduct. Our child-study has had no maps and charts. Shall it not have them?

3. *Child-study has not made sufficient use of the comparative method, and has therefore failed to emphasize those character-tendencies that belong to man at all stages of his development.*—In the study of children's *this, that, and the other* many have failed to notice that the dominant traits of childhood are no less characteristic of the adult. It has been assumed that the child and the adult are much farther apart than they really are. While some see that savage and civilized are essentially and fundamentally alike in

character, and others see the resemblances between child and savage, few have tried to trace out the correspondences of each stage of individual character with every other stage. If it is true to say, "Scratch a Russian and you find a Tartar," it is equally true to assert, "Scratch an adult and you find a child." To be "boy eternal" is the privilege of every man; indeed, few care to be more than grown-up children.

The contention that child-study often makes untrue distinctions between child and adult can be well illustrated by an application of the comparative method to the study of "interests."

Some years ago Binet and others thought they found that children are especially interested in the category of "use" and in "activity" generally. It was thought that because children gave definitions in terms of "utility," and seldom used a "larger term" (such as "animal" in defining "horse"), therefore children are interested in *use* and not interested in generic terms. Well, try the experiment of having college students, school-teachers, business-men, and other adults give some *spontaneous* definitions. Warn them that they must write down (or, better, speak out) the *first* definition "that pops into their heads." A number of such trials have shown and will show that *all of us* spontaneously define in terms of *use*, and that logical definition is usually an afterthought. Moreover children's "something that," and like expressions are functionally equivalent to "larger terms." They are *x*'s that stand for the child's lack of knowledge, but testify to his spontaneous desire to include a more generic term in his definition.

Take another case. Much has been written about the "psychology of the crowd." Investigation will show that "the mob" is nothing but a number of adults whose instincts are working on the child-level. No theories of "atavism" or of "collective consciousness" are needed to explain the phenomenon. They are manifestations of childishness or of childlikeness. Shakespeare has caught the idea of childlikeness and childishness in adults, and has most wonderfully worked it into *A Midsummer Night's Dream*, which is essentially a play of the child-level.

Busying ourselves with the countless results of a child's

thinking, feeling, and doing, we often fail to see the great, stable bed-rock of *tendency* that underlies the shifting sands of caprice and convention, mood and whim. We call a man irreligious because he fails to conform to some of our conventions, or to share some of our beliefs, and we often fail to realize that the religious *tendency*, whether in man, woman, or child, civilized or uncivilized, is reverence for higher character and a feeling of dependence upon it. Again, we call the savage's music unmelodious and inharmonious; whereupon John Comfort Fillmore and Miss Alice Fletcher teach us to *find* its melody and make explicit its implicit harmony.

Child-study has largely failed to realize the essential unity of character-tendencies in all grades of human nature.

4. *Child-study has been of little direct service to education.*—While its larger human results have not been insignificant, child-study has wrought no important educational reforms. Psychology failed to secure for us a satisfactory correlation of studies. Child-study, through a study of the correlation of tendencies, might have helped us to lay a solid basis for a scientific course of study, or to strengthen the foundations already laid. For example, what are the tendencies of character fostered by geography, by history, by literature? Child-study has psychologized a little on the subject, but what has it done (to take an instance) to relate man's appropriative and economic instincts to geography, or his gregarious and clannish instincts to history? The succession of ideas to be brought out in these studies will depend on the stages of development reached by the character-tendencies corresponding to them. And we shall succeed in correlating studies only as we correlate the large tendencies of character and have the studies fit the child rather than the child the studies.

If child-study has affected discipline, its influence has not been altogether good. Perhaps we respect the individuality of the child more than formerly, but are we helping the children to respect *our* individuality? We are more sympathetic; can the same be said of the children? We are living for our children more than we used to; but do *they* care more for *our* good and the good of their fellows? We are respecting children's "rights;" are we teaching them their duties?

Has child-study done anything for the education of character by telling us what tendencies, what motives, are dominant during the various periods of development? Surely it is important for teachers and parents to know, for example, whether hero worship is the best note to strike in the discipline of the primary grades; whether love of beauty and honor ought to characterize the grammar grades; whether the logical impulse ought to be dominant in the high school. And has child-study done anything for method, or does Herbartianism still stand as the soundest set of principles? Perhaps a more comprehensive and systematic child-study will be able to energize the Herbartian dogmas (for example) with a scientific (not sentimental) infusion of the Froebelian rhythm of work-and-play.

In fine, summing up our suggestions, we may hope that the child-study of the future will be (1) more zealous to study the tendencies of character that relate children to their natural and social environment; (2) more interested in taking bird's-eye views of the whole character during its various stages of development (3) more assiduous in its use of the comparative method and in its search for fundamental tendencies that last during the whole development; (4) more useful in applying its results to the practical and scientific study of curriculum, discipline, and method.

THOMAS P. BAILEY, JR.

Department of Philosophy,  
THE UNIVERSITY OF CHICAGO.

# MARCH.

ELEANOR SMITH.

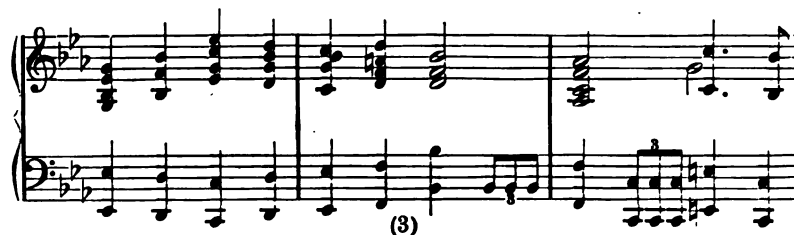
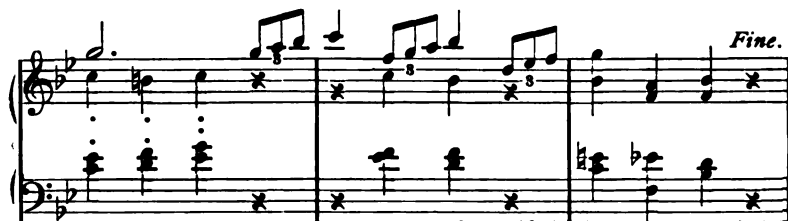
*Tempo di Marcia.*



(1)







**MARCH**

367

A musical score for the song 'The Rose Tree'. The score is written for a piano and voice. The piano part is in the left hand, and the voice part is in the right hand. The key signature is one flat (B-flat), and the time signature is 4/4. The score consists of two systems. The first system has two measures, and the second system has two measures. The piano part features a melody in the right hand and a bass line in the left hand. The voice part is a single melodic line. The lyrics are written below the voice part.

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The treble staff has a key signature of one flat (B-flat) and a common time signature. The melody is written in a simple, folk-like style. The bass staff provides a harmonic accompaniment with chords and single notes. The score is divided into three measures by vertical bar lines.

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The key signature has two flats (B-flat and E-flat), and the time signature is 3/4. The melody is written in the treble staff, and the accompaniment is in the bass staff. The score includes a key signature change from two flats to one flat (B-flat only) in the second system. The melody consists of a series of eighth and quarter notes, with some rests. The bass line provides a steady accompaniment with eighth and quarter notes. The score is divided into two systems by a double bar line.

[illegible]

*D. C. al Fine.*

## IMPORTANCE OF INDIRECT MEASUREMENT IN ELEMENTARY MATHEMATICAL TEACHING.

THE intensely practical spirit, characteristic of our time and land, has not been an unmixed blessing to American education. When a principle has been found to work well, to economize effort, in one field of activity, it is the genius of our people to carry it over into other fields. Educational practice has profited greatly during recent times by the readiness and the cleverness with which the American teacher perceives a successful principle in an adjoining field, adapts it to his own profession, and adopts it into his practice. The laboratory method of imparting truth did not wait long after science teachers had proved its value until alert teachers in numerous lines were availing themselves of its vitalizing influence. For years the most successful mathematical teachers have been pleading to deaf ears from considerations of both theory and practice for the general adoption of this method in the mathematical classroom. Only those mathematical teachers who depend for their professional standing upon the reputation of their institution can afford much longer to wrap themselves in the bandages of an unreasoning conservatism which closes all avenues of mental approach and destroys every possibility of professional improvement.

But the dictum that the end justifies the means, when transferred from the commercial to the educational field, becomes mischievous to a high degree. It is scarcely necessary to say that where the chief end of activity is morality this dictum is most pernicious. If, therefore, this maxim of the mart has any relevancy to mathematical teaching, this is the only line of teaching in which it would be tolerated for an hour.

The rapidly waning popularity which greets the deviceful ingenuity of the modern mathematical pedagogue disproves the pertinency of this dictum to mathematical teaching. Many are coming to realize that pedagogical air lines constructed to bear the learner most quickly and pleasurably to the delectable hills

of mathematical learning are all of them narrow-gauge routes, over bumpy roadbeds, through stretches of monotonous number scenery alternating with districts permitting only the most contracted view of the vaster fields of mathematical truth.

The reason from the side of subject-matter for the inadequacy of the short-cuts to mathematics lies in the fact that they all build on fragmentary notions of the cultural and practical value of mathematics. From the side of method they fail signally in that they do not take the life and purpose of the pupil sufficiently into account. Most of the psychological methods of developing the subject in the pupil's mind select some interesting psychological aspect of numbers and undertake to magnify this aspect into the most distorted and oftentimes grotesque proportions.

The production of these fragmentary solutions of the problem of mathematical teaching a few years since had become an epidemic, not to say a contagion, among us. It was thought that this busy, buzzing age demanded short, sharp, and snap solutions of all its problems. A student of that time, belonging to a sophomore calculus class of young engineers, had become infected with the yearning for the "nutshell" class of solutions. The student in question was having difficulty with his subject. It is from this sort that the "nutshell" type is born. "Professor, what is the core principle of this 'stuff' at any rate?" he asked. "Can't you give it to me in a 'nutshell'?" On being told that the "core principle" of calculus, though marvelously fruitful once its full significance was grasped, was so general as to be of almost no practical value to the learner, he refused to be satisfied. "What is it?" he insisted. He was then told that it was "the idea of rates." It is needless to say he wanted an explanation of the explanation; whereupon he was told that this is what we are trying to give in the recitation room from day to day. Six months more hard work brought from him the confession that this *is* the "core principle," and, moreover, that this principle is too general to be reduced directly to terms of practice by the beginner.

Several years of close contact with numerous mathematical

teachers of almost every department of school work lead the writer to believe that the cast of mind indicated by this student's questions is typical of the poorly equipped and more or less deviceful pedagogue (not teacher). The danger of this attitude of mind is that it does not grasp deeply enough to seize the veritable heart of the subject, and that a partial rather than the whole truth is usually discerned and mistaken for the whole truth. But even if the real core is penetrated and the organizing principle is discerned, the truth is too general for most teaching purposes. The result, therefore, is a one-idea presentation or too general a presentation, and is consequently either *fragmentary and false, or futile*.

But it is the purpose of this paper to point out an aspect of mathematical work which receives little or no consideration in any of the elementary texts. It is also the most important, by far, of all aspects of elementary mathematical study. It is, indeed, the phase of mathematical work for which all correct number teaching and arithmetic teaching prepare the pupil and the phase of mathematics whose non-existence would almost remove mathematical study from a rightful place in the school curriculum. I refer to the phase of mathematical study involved in *indirect measurement*.

Most mathematical teachers who make any attempt to square their practice with psychology base their teaching upon measurement. So far as the writer knows, no educator of any considerable experience claims that measurement is all there is to number study. As a matter of fact, direct measurement is very far from being all there is to number study. Those who read this claim into the statements of some of the leading writers on elementary mathematical teaching are in most cases open to the charge of wilful misrepresentation. Two things they need to learn: One is that a reputation for superior insight into the needs of the mathematical situation is not acquired through wholesale criticism of everything the "other fellow" does. The other is the more important reflection, abundantly borne out by the history of mathematical teaching, that whatever improvement comes to mathematical teaching originates from non-

mathematical sources. The result is that mathematical teaching is about the only static element in all education. Almost everything else is subject to the requirement of adapting itself to the changed conditions of modern life. Mathematical teaching seems to be "the same yesterday, today, and forever." This is the one educational relic of the remote past which bids fair to remain with us for an indefinite future, so far as the mathematical priesthood is concerned. This perhaps accounts for, though it does not excuse, the notorious fact that mathematical teaching generally is the poorest of all the bad teaching of our schools. It is difficult to decide which works the more efficaciously to bring this deplorable result about—the elementary teacher's general ignorance of mathematics or the mathematical specialist's general ignorance of elementary school conditions. In the writer's opinion the damage wrought by the latter is the more positively harmful, because it always operates in conjunction with a conceit of knowledge which emboldens its possessor with the presumption of prescribing for conditions of which he is ignorant.

To anyone who is familiar with the facts it must seem clear that something is wrong with mathematical teaching; else there would be much less need of bribing students with mathematical scholarships and fellowships to prevent good men from leaving the study as soon as the subjects begin to become elective. Since a comparatively small number of students choose mathematics as a specialty after the first college year, it must also be clear that much of the antipathy of students to mathematics is engendered during their early school life. It is confidently believed that the number of voluntary elections of mathematical courses would be quadrupled in a very short time, without the use of rewards of any sort, by a general movement in the direction of improving mathematical teaching.

The laboratory method of instruction, which has already been used by some teachers of mathematical subjects for several years, promises much in the way of improvement. No one who has given this method a fair test ever abandons it of his own accord. Some have dropped it because certain superintendents,

who would rather be in the majority than in the right, have forced its retirement in their schools. Too many distinctly good movements of recent educational advance have, however, been placed under ban by this official agency to make it a reflection upon the method.

It ought to be remarked, however, that a two-hour mathematical lecture inside of a physical laboratory is not what is meant by the laboratory method applied to mathematical teaching. Were it pertinent to the purpose of this article, it might be well to explain what is meant by the method applied to mathematics. But this is a matter of more concern to the secondary and university teacher than to the elementary teacher.

The aspect of mathematical work referred to above by the phrase "indirect measurement" is allied to laboratory work, and, as was said above, is altogether too much neglected in the elementary school. It has to do with that large body of problems in which the desired magnitude cannot be obtained by the direct application of the unit of measure to it. Such problems as the determination of the areas of plane figures and of the capacities of vessels and the volumes of solids are familiar examples of indirect measurement. In these problems we seek to ascertain how, by the direct measurement of lines and angles, we may infer the number of square or cubical units in the areas, or volumes. The direct measurement of a given area or volume would consist in selecting a superficial, or cubical, unit of magnitude *of the same sort* as the magnitude to be measured, applying it a definite number of times to the given magnitude and counting the number of applications. But this method is too inconvenient for practice and we substitute the indirect method of inferring the number of units from linear, or angular, measures which are more easily executed.

But while insisting upon the importance of more indirect measurement, in almost the same breath we must object to overworking the class of indirect measurements implied in the mensuration of the simple rectangle, and of the square-cornered box. Nowadays, we not infrequently witness the elaborate treatment of the rectangle in at least five of the grades of the ele-

mentary school. We seem never to get it taught, although two or three recitations would appear amply sufficient for all pre-geometrical purposes. In addition to this elaborate and repeated treatment we behold the rectangle doing all sorts of service in illustrating almost every new arithmetical operation from multiplication to the end. Nothing short of scarcity of number material or poverty of expedient on the teacher's part can excuse this overworking of a figure which is utterly simple

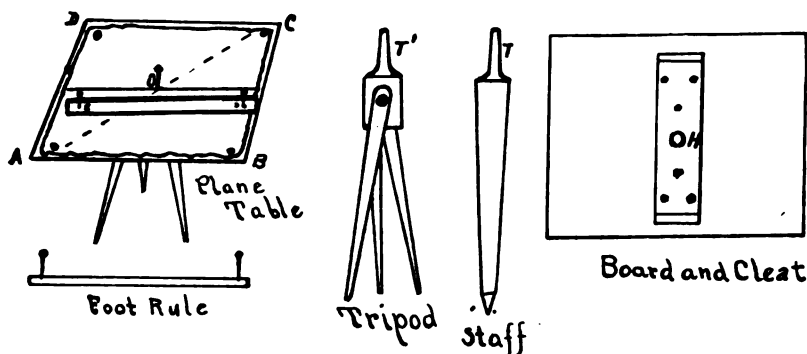


FIG. 1

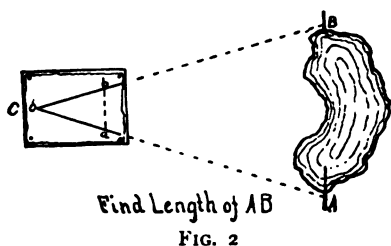
and almost intuitively comprehensible. For the sake of the limitless field of problems exclusive of the rectangle, loosely called the *oblong*, let us give the rectangle a season of rest. After all it is the triangle, not the rectangle, which is the figure of fundamental mathematical importance.

Elementary geometrical surveying furnishes another class of problems in indirect measurement of great interest and value to elementary pupils. The field work needed for this class of problems gives a vividness and a reality to this work which no amount or kind of pictured figure teaching can secure.

The only apparatus needed for this work are those shown in Fig. 1. They consist of a board 16 inches by 18 inches with a cleat on its back side, a tripod or staff, and a footrule with common pins stuck vertically near the ends. The cleat is provided with a conical hole to receive the tapering pins  $T$  or  $T'$ . The footrule with its pins for sights serves to direct the sight line.



To use the plane table, pin a sheet of paper on the board, stick a pin at some point, as  $O$ , and put the pin ( $T'$  or  $T$ ) of the tripod, or staff, in the hole,  $H$ . Then set the plane table in the position shown on the left in Fig. 1, and it is ready for use.



With a carpenter's level, or a common phial partially filled with water, carefully level the board  $ABCD$ , and place the footrule upon it with its straight edge against the pin  $O$ , as is shown at  $ES$  in the figure. Sight past the pins at  $E$  and  $S$ , and turn

the footrule around, keeping it against pin  $O$ , until the pins  $E$  and  $S$  are in line with some object, as a tree, steeple, or corner of a house. With a sharp lead pencil draw a line on the paper along the edge of the footrule. Now, without moving the board, turn the footrule around, keeping it touching the pin  $O$ , until the pin sights are in line with some other object. Draw a second line along the edge of the ruler. The angle at the pin  $O$ , on the board between the lines of sight to the two objects is now transferred to the paper. The magnitude of the angle may be obtained in degrees with the aid of a protractor.

Fig. 2 shows how a line, as  $AB$ , which cannot be directly measured may be measured indirectly. Set up the plane table over some point  $O$  on the ground from which the lines  $OB$  and  $OA$  may be measured. Pointing the footrule first toward  $A$  and then toward  $B$ , draw the lines  $oa$  and  $ob$  on the board. On any convenient scale, as 100 feet to the inch, mark off the length  $oa$  and  $ob$ . Connect  $a$  and  $b$  and measure  $ab$ . Remembering 1 inch represents 100 feet, find the length of  $AB$ .

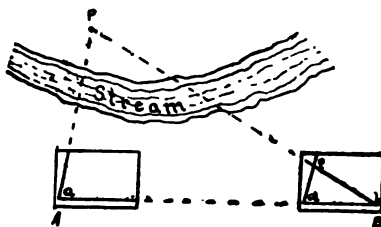


FIG. 3

Fig. 3 shows how the plane table may be used to find the distance from two points  $A$  and  $B$  to an inaccessible point  $P$ .

Set the board up over point  $A$  on the ground, level the board, and with the footrule draw lines from a point  $a$  on the board between  $P$  and toward a stake stuck at any other accessible point, as  $B$ . Move the tripod to a position over  $B$ , place the straight edge of the footrule on the line  $ab$  and turn the board around on

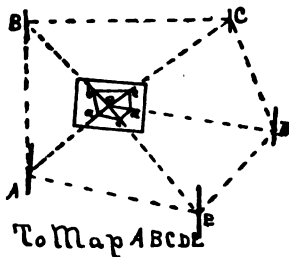


FIG. 4

the pin  $T'$  until the sight pins are in line with a stake, now stuck at  $A$ . Using any convenient scale, mark off  $ab$  long enough to represent  $AB$ . Stick a pin at  $b$ . Place the footrule against this pin and sight it into line with  $P$ . Draw  $bp$ . Measure  $ap$  and  $bp$  and, remembering the scale, the distances  $AP$  and  $BP$  at once become known.

Fig. 4 shows how the plane table, set up at a single point within an area  $ABCDE$ , enables a student to map, or plat, it by laying off to scale the distances  $oa$ ,  $ob$ , etc., to represent the measured distances  $OA$ ,  $OB$ , etc. It is only necessary to connect the points  $abc$ , etc. All the sides of the polygon  $ABCDE$  become known. If the area is wanted it is only necessary to measure the bases and altitude of the little triangles on the board and apply the ordinary rule for the area of a triangle. If the paper used is squared paper the area may be found still more simply. The method will readily suggest itself to the reader.

Fig. 5 shows how the outline of any irregular tract may be found by setting up the board at its corners. Let the corners

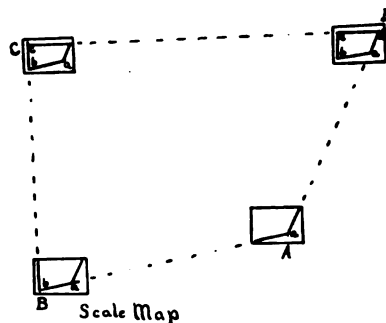


FIG. 5

of the tract to be platted be  $ABCD$ . Set the board up over  $A$ , level it, and from some point, as  $a$ , on the board direct a line with the sight-rule toward a stake at  $D$  and then toward another at  $B$ . Then move the board forward and, placing it over  $B$ , level the board. Set the sight-rule along the line  $ab$  and turn

the board around pin  $T'$  until the sight-pins are in line with a stake at  $A$ . This brings the board parallel to its position over  $A$ . This step is called *orienting* the board. Lay off  $ab$  to represent  $AB$  to scale. Place the sight-rule on a pin stuck at  $b$  and line it in with a stake at  $C$ . Draw a line on the board along the rule from  $b$  toward  $C$ . Now move the board to  $C$ , level it, orient it, lay off  $bc$  to represent  $BC$  to the same scale and draw a line from  $c$  toward  $D$ . This gives on the board a small polygon  $abcd$  similar to  $ABCD$ .

Engineers call this process *traversing* with the plane table. If squared paper is used the area is easily found by counting the squares. If not, resolve the figure into triangles and find the sum of the areas of the triangles.

Numerous other uses of this board will readily suggest themselves from what has been said here.

GEORGE W. MYERS.

THE UNIVERSITY OF CHICAGO  
SCHOOL OF EDUCATION.

## MANUAL TRAINING.

TWENTY years ago an article on manual training would perforce have been an argument in favor of manual training and a plea for its introduction into the general scheme of education. But today, when manual training is not only recognized as legitimate, but is even emphasized as one of the fundamental factors in all education, the point of interest among educators is the aims and ideals of various manual-training teachers, and the different methods whereby the best results are obtained.

A point at issue is the age at which wood-working should be given to children. In the School of Education the children have wood-working through the eight grades, a longer time than in most schools, the wood-working being seldom introduced before the fifth grade. With this time as a basis, it may be possible to state with some definiteness what should be expected of a child when he has completed the work in wood through the eight grades. He should know how to use the ordinary wood-working tools, how to keep them in good working order, and the average cost of each tool. He should also know something of the history of tools. The study of the hammer is a good example of what may be done in this line. It can be traced back from the tool in the boy's hand through various stages to the rock in the hand of the savage. Through such study the child unconsciously learns much of the history of the race.

One of the most important gains on the part of the child is in the power of initiation. To secure this, the child must be given larger freedom in the selection of the articles to be made by him and in the details of their construction. But that this freedom may not lead him into serious errors, his initiation must be guided by the teacher. Such guidance will need all her tact and power of suggestion and encouragement. She must see to it that he chooses an object simple enough in design and execution to be wholly within his own power, and also embody-

ing enough difficulties to test and enlarge his mental and physical powers.

The mathematical possibilities in planning and executing work are almost boundless. Before a child comes into the manual-training room he must have a clear and well-defined idea of what he is to make there. A sketch of the article to be made is first asked for, with suggested proportions. A more accurate drawing is then made, full size if possible, to scale if not. In the earlier grades this drawing, with accurate proportions, is the one used as a working drawing. Among the older children a more formal mechanical drawing is generally made. The practice of drawing is found to be a valuable element in general culture; the free hand, because it requires much creative power and concentration, develops the æsthetic faculty, also helps the child to recognize the necessity for method in representation and suggestion; the mechanical, because it demands absolute accuracy in the making, and because it stimulates the imagination which must be used in the interpretation of the drawing. Somewhat of the history and practice of architecture may be brought quite naturally into the work in drawing, through the child's interests in the designs; also a knowledge of botany in the plant analysis necessary for decorative purposes.

Since the material used in the manual-training room is principally wood, some knowledge of the process of lumbering and transportation is of much interest. The child should have a fair knowledge of the more obvious characteristics of the woods commonly used. He should know their texture, color, and odor, and degree of strength. He should also know something of the tree when growing. He should know the bark and leaves, and should have a geographical knowledge of their choice of environment. The nature study involved in this is not so much intended to give the child a systematic knowledge of the subject as to arouse in him a keen and affectionate interest in nature. The work may be much enriched by the incidental but frequent use of poems, stories, and myths about trees.

The physical development is not lost sight of, since the work

is of necessity such that healthful exercise is given to the body as well as skill to the hand. In any of the postures taken, as in sawing or planing, witness the entire body brought into action—chest expanded, every muscle alert, every sense keen, all of the child there.

The moral and the æsthetic effect of the work in manual training is not so obvious, but is none the less certain, and is even more important. Perfecting the work of his hand, making it a truly finished and artistic product, develops in the child discrimination, taste, delicate touch, co-ordination of movement; in a word, knowledge and love of the beautiful. The moral qualities of courage, patience, and diligence, of sincerity and honesty, of consideration for the rights of others, are inevitably called forth by any wisely conducted manual-training course.

ELIZABETH A. LANGLEY AND  
ANNETTE BUTLER.

THE UNIVERSITY OF CHICAGO  
SCHOOL OF EDUCATION.

## KINDERGARTEN PROGRAMS.

ANNE ELIZABETH ALLEN.

THE historical schoolroom program with its rigid form and slavish following is doomed. Its death-warrant sounded when the child himself became to the teacher the center of interest and attention. The marked time this monitor gave for certain recitations and certain movements has beaten out its life against the vital and immediate needs of the children. Its old place on the wall, in the solemn black and white of hard type, has given place to the blackboard copy, hastily made and easily obliterated. The younger the class of children, the less conspicuous the program, until it disappears almost completely in the Kindergarten. Yet this time-honored institution, upon which our ancestors grew into vigorous manhood and womanhood, must have many good points which should be considered before casting it completely away; it has its place, though it be an obscure and secret one known only to the teacher.

With all the myriad topics of interest crowding one another for prominence, one must formulate somewhat in order to keep within bounds. A book of reference is a most convenient thing to keep in one's library, as it not only adds new thought on the special subject looked up, but suggests other most useful lines of correlated thoughts. The program may occupy the same place in the schoolroom, bringing back, when referred to, to an otherwise overburdened memory the topics thought out previously. This program may not suggest a single new thought to another person, but to the writer its apparently dead form is alive with suggestions which bristle at every point, because she is able to fill in every gap with the life of enthusiastic interest in the children for whom it was planned.

Two programs in their interpretation may be like two menus—the one served poorly and composed of badly seasoned dishes; the other, that appears just the same on the menu card, presenting the most marked contrast in exquisitely dainty service and

delicious viands, the whole flavored with good company that would make of even the plainest meal a feast.

When a program has grown cold, it often stares the author in the face with a strange, unfamiliar air shorn of the enthusiasm and keen interest of mentally correlated thought felt by her under the inspiration of its writing; it returns to her consciousness with a shock at its apparent barrenness of imagery and desolate isolation. Think then of its barrenness to a stranger. Hence the bare, unvarnished program, in most cases, may well stay in its secret nook unseen except by the mind that conceived it.

But need it of necessity be blotted entirely out? Had it not enough of helpfulness in its mechanism to be given existence, simply perhaps as offering suggestive steps? Do we not expect too much of it? In attempting to write up a forecast of the work in a kindergarten, the utter impossibility of expressing oneself truly and explicitly becomes more and more evident.

In attempting to write a résumé giving the work as done, one becomes utterly hopeless. The subtleties of this work with babies, the dependence upon the success of its movement, educative value, and interest, that most of the time depend in their turn upon such quick insight on the part of the leader, such instantaneous adaptation to immediate needs—a glance here, a suggestion there—that cold type will not lend itself to chronicling its ephemeral action.

The program here seems even more to demand conditions that will flexibly yield to the real needs of this unformed age. It cannot show where the unexpected conditions present themselves for the natural inculcation of habits of self-control; consideration for the rights of others; keen observation; growth of strong imagery through all the senses; correct and clear expression; vivid imagination; and truthful statements.

A program will never show what may escape even the observation of a chance visitor, the victory of a spontaneous act of generosity; a first mastery of himself by an impulsive child; the ebullition point long looked for in another child, and welcomed by the teacher as the mottled heat of measles known to exist in the system is welcomed by the anxious physician and



mother. Neither can it show when another child's first clear expression in story, song, calculation of distance, exact interpretation of numerical values, mastery of form that he has struggled with, intellectual grasp of values in color, sound, etc., first come into his consciousness as separate images that mean something to him.

A program seems to be a necessity for the beginner—a visible, omnipresent program for constant reference. If it be her own, carefully and thoughtfully made out, it need not be a stumbling-block to the teacher. However, the best course seems to be the giving of much thought and time to the elaboration of a plan of action always before entering the field; then consigning this outward and visible form to the waste-paper basket or a place for occasional reference only. Below will be found, not an elaborated plan, but simply an outline of suggestive kindergarten work for January, February, and March.

#### SUBJECT.

Protection against cold by bringing the heat of summer into our houses and the storing in winter of the means of keeping things cold in the summer.

#### TOPIC I.

How are our homes heated? How is this heat generated? How conducted?

Different means of heating: (1) furnaces—steam, hot air, hot water, gas; (2) stoves; (3) grates—gas, coal, wood. How do the hot air and steam generated in the furnaces reach the different rooms in a building? Will have experiments showing force of steam and how steam rises, using test-tubes and tea-kettle; also experiments showing how hot air rises. Will find the source of heat in homes and at school, tracing, when possible, the pipes conveying the steam or hot air.

#### TOPIC II.

Keeping things cool in the summer.

How is this done? Where does the ice come from? Where do the wagons get the ice? etc. Tracing the ice to its source, we shall find out about the cutting and storing of it and its best care. How the houses are constructed for preserving it, etc. Fourth, fifth, and sixth Gifts for fire-places, stoves, furnaces.

## MATERIALS USED.

## TOPIC I.

Large blocks for building furnaces, grates, stoves. Second Gift, beads for building radiators, steam pipes. Rings and sticks for registers. Paints, clay, paper paste.

## TOPIC II.

Large blocks for pond covered with blocks of ice ready to carry away in wagon built of blocks. Inclined plane and pulley for moving ice. Storing ice. Paper, pasteboard, soft tin for cutting ice tongs. Clay-modeling blocks of ice as cut from pond to a given scale. Ice wagons made of boxes, milk-bottle tops. Ice houses made of pasteboard.

*Stories.*—A. E. A., "The Fire Fairies;" "The Secret of Fire;" "Prometheus." F. J. Cooke, "The Red-headed Wood Pecker."

*Songs.*—Winter songs from all sources.

*Games.*—Steam-cars; steamboats; fire fairies; cutting and storing of ice; frost fairies.

## GRADE OUTLINES.

---

### FIRST GRADE.

BERTHA PAYNE.

*Geography.*—During the fall quarter the children traced the foods found commonly upon the table to the farm. We shall follow this in the winter quarter by finding where the tropical fruits are grown that are brought to us in the winter; under what conditions they are grown; how they are brought to us; and how and where they are stored. To furnish experiences on this subject we shall visit the conservatory in Washington Park, where bananas are ripening, and where other tropical plants are growing. The temperature and humidity of the atmosphere will be noted, pictures of the plants painted, and general growth-tendencies observed. A cold-storage plant will also be visited and an excursion made to the freight-houses of one of the railroads. The museum will be visited to find the kind of homes built by people living in a warm climate, where the trees grow in these fern- and palm-like forms.

From this set of conditions we shall go to those most strongly contrasted in climate and the consequent environment, which of course is found among the Eskimos, where the geographic conditions of long nights, short summer season, extreme cold, and meager plant life will be made as vivid as possible. To build up a picture of these conditions and the life necessitated by them, the children will be taken to see the Eskimo exhibit in the museum; this will be supplemented by pictures and literature.

*History.*—Our own houses will be compared with those of the tropics and with those of the Eskimos in material, form, lighting, heating, and furnishing, as they have been compared before with the Indian wigwam and pueblo. In each case the conditions found in climate, plants, animals, and stores or supplies will be presented vividly, and the children left to guess at the probable or possible solution to the problems that these people face in securing the necessities of life. After this the models, pictures, and stories will again be studied to verify and correct their own suppositions. To round out the work the children will construct small models of an Eskimo and of a Yucatanese or Hawaiian village, to be given to the children in a neighboring hospital.

*Manual training and applied arts.*—The wooden doll-houses begun in October will probably be ready by the first of January for the staircase, which is the most difficult piece of work encountered in construction, involv-

ing much calculation, measurement, and actual manipulation of the material. The walls will be covered with paper of the children's own designing, carried out in water-color. In the course of this designing the children will see some of the best papers of which samples can be obtained. Glass will be fitted to the window openings, which they made last quarter. The making of glass will be touched upon, since this use and their previous experiments with quartz, lime, and sand have prepared the way.

In making furniture for the houses and in laying the dining-room floors the beauty and variety of woods will receive some attention as well as the proportion and form of the articles themselves.

For the kitchen floors oil-cloth may be designed, and for the parlor floors rugs will be woven.

*Nature study.*—The sorting and testing of minerals, which was begun in the fall quarter, will be continued in the examination of metal ores and metals; lead will be used for casting car wheels for small cars to be used in playing with the village arranged from their doll-houses in the spring.

Evaporation will be more closely watched, and the formation of rain and dew by condensation discovered. Turbid water from the aquarium and lake will be examined, and the children will find ways of purifying it; precipitation, filtration, boiling, and condensation, or distillation, will be tried. The boiling-point will be tried by the thermometer.

The daily weather record will include a more definite record of temperature; the freezing-point will be found and the children will learn to read the thermometer above and below this point.

In making the floors and the furniture of the doll-houses the children will examine different woods, distinguishing them by odor, color, and grain. They will test their hardness and tenacity, and identify them with the growing trees of native woods. In March the children will make maple sugar, and will watch the budding and blossoming of the oak, willow, horse-chestnut, maple, and elm, and paint them in different stages of vernalion.

*Home economics.*—Eggs and cornstarch will be cooked to give experience in seeing the change take place in protein and starch under influence of heat. Cocoa will be made for luncheon. The dried apples that were prepared in October will be cooked into apple sauce, and apple tarts made and served to the children of the second grade. The amount of water absorbed by the evaporated apples will be measured and compared with the loss in weight during the drying process. Lemonade will be made and corn will be parched.

*Number.*—The children will use the quart, pint, and gill measures frequently in the cooking lessons and in other work. The use of the footrule in the making of cook-books and dictionaries, and in the furniture-making and other construction will familiarize the children with the addition and subtraction of numbers from one to eighteen, and also with the fractional parts of these numbers. The thermometer is another source of number work. Each

one of the children deposits one dollar a month with the teacher, from which sum the money for cocoa or milk at the daily luncheon and for the replenishing of desk supplies is taken. The children will each be given in lieu of this dollar the same sum in toy money, out of which they will pay their bills at the end of the week, and later will keep their own accounts. This again furnishes concrete work in addition, subtraction, and multiplication. The terms "cent," "nickel," "dime," "quarter," and "half-dollar" will gradually get their valuation in terms of materials used and their relative numeric value. The notation of any numbers will be given whenever either a temporary or a permanent record is needed. In addition to this use of number in real measurement, the children will have these facts of number repeated in number games which they enjoy as they do any games, and which will be useful in memorizing and quickly recalling these facts which they have acquired slowly in cooking, experimenting, and making.

*Literature.*—While the stories will be selected in the main for literary merit and childlike character, some will be told which may illuminate or add beauty and fancy to things and phenomena met in their work, such as the story of the forging of the sword in *Siegfried*, or Hawthorne's version of King Midas or "The Golden Touch," the story of "The Walnut Tree that Wanted to Bear Tulips" from *Cat Tails and Other Tales*, the legend of the poplar tree from *Nature Myths and Stories* (Cooke). Some of the *Jungle Stories* will be read to the children, and they will read some of *Aesop's Fables*.

*Reading.*—Words and sentences will be written upon the blackboard in all the work, wherever they can be made to serve as a record or be referred to again and again in a lesson. The directions for cooking and for measurements and moves in manual training and construction will be written upon the blackboard and used instead of the spoken directions. In reviewing the results of any piece of work or experiment the outcome will be written upon the blackboard in the children's words, read, and then printed and used again as a reading lesson. They will also have short stories to read.

Games in phonics and rhyme-making will take the same place in reference to reading that the number drills do to number.

*Painting.*—Stories will be illustrated, and pictures of the landscape will be painted from time to time; drawings will be made as working plans and to fill the place of oral description.

## SECOND GRADE.

CLARA ISABEL MITCHELL.

THE outline of work for the second quarter is a continuation of that for the first, published in December. It is based upon (1) the social life of the community, its work and play, especially that in which the children have a conscious part; (2) the natural environment.

The program provides for (1) the carrying on of a few fundamental social occupations; (2) field work for the freer contact with outdoor nature; (3) games, plays, and entertainments; (4) industrial excursions; (5) lessons and stories in nature, history, geography, literature, and mathematics as a help to the interpretation of experiences gained at first hand; (6) the development of skill in expression, modeling, painting, drawing, writing, oral reading, singing.

The following plan is prepared tentatively, and will be carried out only so far as it seems to be indicated in the life of the schoolroom.

#### I. OCCUPATIONS.

*Housekeeping.*—Care of desks and lockers, house-plants, and indoor animals. Serving of school luncheons; washing of dishes. Making of starch from rice and potato. Making of paste from cornstarch.

*Cooking.*—Boiled potatoes. Grinding of corn into meal. Cooking of home-ground and mill-ground meal. Cornstarch mold. Custard. Ice-cream, made according to rule learned in last year's work. Cocoa. In the boiling of potatoes, rice, and cornmeal, free experiments will be allowed, and records made and afterward discussed. Rules will then be formulated, printed, and followed.

##### RULE FOR BOILING POTATOES.

Pare potatoes. Have ready enough boiling water to cover the potatoes well. Add one teaspoonful of salt to each quart of water. Put the potatoes into the water. Boil for a half hour or until tender. Pour off all the water. Shake the dish of potatoes in a draft of air until they grow white and mealy.—*Mrs. Norton.*

##### RULE FOR BOILING RICE.

Pick over and wash the rice thoroughly. Have ready a pint of boiling water for every quarter of a cup of rice. Add one-fourth of a tablespoonful of salt to the pint of water. Put the rice into the boiling water and cook rapidly until it is tender. Stir carefully with a fork to prevent sticking. Drain in a sieve. Pour over it a half-cup of cold water. Put in the oven to dry and heat.—*Mrs. Norton.*

##### CORNSTARCH MOLD.

- 1 cup of milk.
- $\frac{1}{4}$  teaspoonful of vanilla.
- 2 tablespoonfuls of cornstarch.
- $\frac{1}{2}$  saltspoonful of salt.
- 2 tablespoonfuls of sugar.

Scald the milk, leaving out two tablespoonfuls. Mix the cornstarch, salt, and sugar. Add the two tablespoonfuls of milk. Mix thoroughly. Add gradually the scalded milk. Boil one minute, then cook for fifteen minutes over hot water. Add flavoring. Pour into molds that have been wet in cold water.

#### RULE FOR MAKING COCOA.

$\frac{3}{4}$  cup of milk.  
 $\frac{1}{2}$  cup of water.  
 2 teaspoonfuls of cocoa.  
 2 teaspoonfuls of sugar.  
 A bit of salt.

Scald the milk. Mix the cocoa and sugar. Gradually stir in the hot water. Stir until smooth. Put on stove and boil for one minute. Add hot milk and salt. Beat with egg-beater until foamy.—*Mrs. Norton.*

#### RULE FOR MAKING CUSTARD.

1 pint of milk.  
 Yolks of 3 eggs.  
 5 tablespoonfuls of sugar.  
 $\frac{1}{4}$  saltspoonful of salt.  
 $\frac{1}{2}$  teaspoonful of vanilla.

Beat the yolks. Add sugar and salt and beat well. Pour the hot milk in slowly. Mix well. Pour all into double boiler. Cook, stirring constantly till smooth and thick like cream. Pour through a fine strainer.

*Wood-working.*—Making of a hand-loom. A frame will be made thirty-six inches long and twenty-four inches wide of strips of half-inch poplar cut two inches wide, set on edge, and nailed together at the ends with wire nails. Into each corner of the frame is to be set an upright six inches high, of similar lumber, with an inch auger hole bored within one inch of the top. Through opposite auger holes at each end of the frame pass three-quarter inch dowels twenty-four inches long.

*Pottery.*—Making vases for flowers in the schoolroom, experimenting with the potter's wheel and salt-glaze.

*Weaving.*—Rugs for playhouses of the first-grade children.

*Dyeing.*—Wool-roving for rug-weaving.

#### RULE FOR BLUE DYE.

(For 100 grams of wool.)

Dissolve 16 grams of alum and 10 grams of cream of tartar in water. Heat to about 160°. Enter skein of wool and boil for one hour. Put skein into warm water containing desired quantity of indigo carmine. Boil until color suits.

#### GREEN.

(For 100 grams of wool.)

Boil 100 grams of fustic with 18 grams of alum for forty minutes. Soak skein in the dye till a good yellow is obtained. Remove fustic chips and

wool. Add indigo carmine to the dye a teaspoonful at a time until color suits.

BLACK.

(For 100 grams of wool.)

Boil skein for one hour with 3 grams of bichromate of potash and 1 gram of sulphuric acid. Wash, and boil for one hour with 50 grams of logwood chips.

PURPLE.

(For 100 grams of wool.)

Boil wool for one hour with 6 grams of tin crystals and 9 grams of cream of tartar; then in a separate bath, with 30 grams of logwood chips.

BROWN-RED.

(For 100 grams of wool.)

Boil wool for one hour with 3 grams of bichromate of potash; then with 60 grams of madder. Wash thoroughly to remove bits of the madder-root.

RED.

(For 100 grams of wool.)

As above, using 10 grams of alum and 8 grams of cream of tartar instead of the bichromate in the first bath.

YELLOW.

(For 100 grams of wool.)

Boil for one hour with 4 grams of alum and 2 grams of oxalic acid; then with 40 grams of fustic chips.

OLD GOLD.

(For 100 grams of wool.)

As above, substituting bichromate of potash, 4 grams, for the alum and oxalic acid.

BROWNS.

(For 100 grams of wool.)

Boil skein for one hour with 10-20 grams of catechu, then for a half-hour with either copper sulphate, ferrous sulphate, or bichromate of potash, 3 grams.

II. FIELD EXCURSIONS.

During the winter season excursions will be infrequent, taken on the milder days to the parks, lake, and prairie areas, to observe effects of seasonal changes.

III. GAMES, PLAYS, AND ENTERTAINMENTS.

*Games.*—Tommy Tiddler's ground. Hunting game. Clapping. Exercises in two-fourths, three-fourths, four-fourths, and six-eighths rhythms. Phonics games. Number games.



*Plays.*—Occasional pantomiming of stories chosen by children and approved by the teacher. Arrangement of dialogue and action for paper dolls in the toy theater.

*Entertainments.*—Celebration of Washington's and Lincoln's birthdays in appropriate stories, reading, and music; dancing and games with all the other children of the school to mark the holidays. Making and sending of valentines on St. Valentine's day. Reports of work and telling of stories for one morning exercise of each month.

#### IV. INDUSTRIAL EXCURSIONS.

To markets; coal yard; park conservatory; textile factory; Hull House; Art Institute.

#### V. SUBJECT-MATTER FOR LESSONS.

*Nature study.*—Combustion as illustrated by burning candle: (1) melting of wax; (2) rising of vapor; (3) structure of flame; (4) necessity of air; (5) water and carbon as products of combustion; (6) making of tallow candles.

Coal as fuel: (1) comparison of hard and soft coals; (2) visit to coal yard to learn sizes and prices of coals in the market; (3) reasons for differences in sizes and prices; (4) difficulty of mining, learned through pictures and stories; (5) coke, gas, tar, and ash as products of combustion; of smoke of soft coal.

Light: (1) colors of the spectrum as shown by glass prism; (2) comparison with pigments in the paint box; (3) painting of the rainbow.

Water: (1) purification by filtering through cloth, paper, gravel; (2) boiling; (3) distilling; (4) testing, on clear glass, of rainwater, swamp water, well, lake, and distilled waters; (5) view of pure and impure water through microscope.

Dissolution and crystallization illustrated by dissolving salt, sugar, copper sulphate and bichromate of potash in beakers of cold water and boiling water. Slow evaporation. Study of crystals formed on strings hung in the solution.

*History.*—Methods of cooking, gardening, building, pottery-making, spinning, weaving, sewing, dyeing, and leather-working among peoples of the shepherd and agricultural stages of history. Ancient Hebrews and modern Arabs as typical shepherds. Lake-dwellers of Switzerland; modern Egyptians and Greeks and Pueblo-dwellers as agriculturists. Making of miniature villages for illustration. Plays or dramatizations to show industrial processes, home life, and games of those peoples. Patriarchal government exemplified by Abraham and Jacob. Village life illustrated by the Lake- and Pueblo-dwellers.

*Geography.*—Stories, pictures, and descriptions of ancient Palestine and modern Arabia. Deserts, oases, springs, wells. Methods of traveling across the desert, ancient and modern. Sheep, goats, camels, and horses of the Arabs. Transportation of woven fabrics to Chicago. Pictures of stock-raising.

ing region of our country. Pictures of woolen mills, spinning and weaving machinery. Markets of the winter season. Transportation of fruits and vegetables from Florida and California. Comparison of average temperature of Chicago weather with temperature of the hothouse; with average temperatures of the fruit-growing regions, Florida, Cuba, California.

*Literature.*—Continuation of the Bible stories of shepherd life, Abraham, Isaac, Jacob, Joseph, and David. Twenty-third Psalm. *Robinson Crusoe*. The *Jungle Book* (to be read aloud at luncheon time). Selections from the *Child's Garden of Verses*. Fairy tales.

*Mathematics.*—Telling of time. Table of time. Thermometer. Counting by twos, fours, fives, tens, and threes, as it is involved in the occupations of school. United States money. Keeping of school accounts. Notation of the decimal system. Addition. Subtraction—all to be taught when needed for the carrying on of the problems of the school work.

### THIRD GRADE.

GUDRUN THORNE-THOMSEN.

*Cooking.*—Rice, tomato, pea, and celery soups; chicken blanquette, and chicken soup; breakfast foods; bread, corncake.

The bread and corncake will this time be made from the flour which the children themselves have made.

The cooking introduces the child to laboratory methods, gives him an opportunity to observe cause and effect, and, most important of all, allows him to experience the joy of producing something of value to the community.

There is, of course, no set method of work. Sometimes the recipe is dictated to the children and they try to follow it step by step, learning sometimes to their dismay that inattention here gives sorry results. At other times, the children by means of experiments, and with the help of questions and suggestions from the teacher, work out the recipe.

A close record is kept of the children's questions and suggestions, since they give a clue to the subject-matter which may be studied with greatest benefit.

In the cooking, as in all other work, when the child is acting freely and independently, the teacher has the greatest possible opportunity for a close study of her pupils, for in such work they display their individual characteristics and the natural movement of their minds.

At the end of the quarter the children will prepare a lunch for their mothers.

Subject-matter related to the cooking:

*History.*—The farm study of the autumn quarter to be continued. As an outgrowth of the study of the one farm which the children visited, they will consider a typical farm and the beginnings of a farming community. This

will include the life of a family of farmers moving from the East and settling in the Northwest. (1) Breaking up from the old home. (2) What may be taken along. (3) Modes of travel. (4) The journey. (5) The site chosen for the new home. (6) Building a home. (7) The first work in cultivating the land. (8) The settling of other farmers in the neighborhood. (9) A market for the farm products. Stories of early settlers in the West.

*Geography.*—During the autumn quarter the children observed the river valley wherever it could be seen on their field excursions. Following these observations, a study of the Mississippi valley will be begun. Relief maps, quickly molded sand maps, pictures, and descriptions will be used. Points for study: Slopes of land, general slope of the whole basin. The water parting. Character of the land in the different parts of the basin. Where is the country most suitable for agriculture? How does the fertile soil happen to be located where it is? The overflow of the river; cause and effect of the same, illustrated in the laboratory. The river as a means of communication. Obstructions in the river. Delta.

*Reading.*—Carpenter's *North America*, chaps. XVII–XIX.

REFERENCES: See Miss Baber's list in article on "Geography in the Elementary School," winter quarter.

*Science—study of starch.*—Potatoes are grated, stirred in water, and squeezed through cheesecloth. The water is allowed to stand until the starch settles to the bottom; the water is then poured off and replaced with clean water. The starch is stirred up and washed again until it is clean. This starch will be boiled and used in starching cloth. It will also be tested with iodine. Starch is made in this way by farmers in many parts of Europe. The water which is poured off boiled rice may be tested in the same way.

Mix with water a small amount of corn meal, of oat flour, and of rye flour. Compare the doughs thus formed with that made from wheat flour.

Into 100 grams of flour stir slowly 50 cc. of water. After it is thoroughly mixed take the dough into the hands and work it until it is smooth and elastic; then wash it with water. Change the water when necessary and continue the washing till the water remains clear. The elastic mass left in the hands is gluten. Bake some of this gluten.

*Pottery.*—The making of dishes for the play-room. Visits to the Field Columbian Museum, the Art Institute, and to pottery stores and shops.

Subject-matter related to pottery:

*History.*—Early methods of cooking. Primitive dishes—stone, shell, bone, etc. The discovery of pottery; the development of the art; the potter's wheel. A potter will make different vessels on the wheel for the children.

*Literature.*—"Story of Palissy;" "The Potter;" "The Porcelain Stove."

*Field work.*—Record of daily observations on the weather. Painting pictures of the landscape to show change in coloring. Study in temperature,

the average temperature for each month being noted. Snow; freezing. Effect of cold on plant and animal life.

*Gymnastics.*—For exercises and games see Mr. Kroh's outline.

*History.*—Early Norse training: story of King Olaf Trygvesson. Character of country; running, spear-throwing, swimming, rowing, jumping, sailing, commanding a crew. Winter sports of Norway. Amount of snow; length of day and night. Ski, skates, sleds, sleighs.

Reading and study of "Ulysses" continued.

Special day exercises. Washington's and Lincoln's birthdays.

The third grade will study the boyhood of Lincoln. The Lincoln family moving from Kentucky to Indiana. Abraham's work in building the house, clearing the fields, his farm work. Learning to read and write. The children will make large pictures of incidents of Lincoln's childhood. They will read the stories themselves, then select those which they wish to tell to the school. These they may write and illustrate.

## SIXTH GRADE.

### OUTLINE OF WINTER QUARTER.

MARY REED.

*History.*—The work of the quarter will be the Revolution, and this will be studied with special reference to the industrial relation of England to her colonies, her prohibitory laws, and their direct result in bringing about the War of Independence.

I. The period of struggle for independence: (1) Status of affairs in the colonies at close of French war; restriction of commerce and industries by Great Britain; friction between governors and assemblies over war taxes; growing sense of power through colonial union. (2) Stories of the War of Independence grouped about (a) Boston, (b) New York, (c) Philadelphia, and the South. (3) Stories of patriots: Washington, Adams, Hamilton, Franklin, Greene, Ethan Allen, Israel Putnam, Paul Jones. (4) Questions unsettled at close of war; industrial and commercial relations with Great Britain; the matter of boundaries; relations with the Indians.

II. Comparison of industries at the beginning of the Revolution and the period immediately following: lumbering, ship-building, fisheries, commerce, textile and iron manufacture, building.

*Literature*—I. Oral reading: Longfellow, "Paul Revere;" Read, "Rising of 1776;" Longfellow, "Building of the Ship;" selections from Patrick Henry's orations and Washington's addresses.

II. Supplementary reading: Scudder, *George Washington*; *Braddock's Defeat*, "Heart of Oak" series; Hawthorne, *Grandfather's Chair*; Holmes, *Ballad of the Boston Tea Party*; Goss, *Life and Letters of Paul Revere*; Holmes, *Grandmother's Story of Bunker Hill Battle*; Franklin, *Autobiog-*

*raphy*; Roosevelt, Episodes from *Winning of the West*; Hart, *Source Book of American History*; Channing and Hart, *American History Told by Contemporaries*.

*Geography*.—I. Eastern North America: Appalachian mountain region as a whole, with laboratory study of mountain-making; Hudson, Delaware, and Schuylkill rivers, with special study of river erosion; detailed study of region connected with history of the Revolution, the routes of immigration to the interior, and the acquired territory.

II. West Indies: location, topography, climate, and products; commercial relations with the colonies, and also with the United States today.

III. Current events: weekly reports, with use of political map of United States.

*Home economics*.—In place of lessons in cookery will be a study of the gases utilized in lightening doughs and batters, viz.: expansion of air by application of heat, and simple experiments in forming and collecting carbon dioxide from yeasts and baking powders. The cooking lessons of the spring quarter will furnish the opportunity to apply this knowledge, while those of the autumn quarter have developed the need for it.

*Science*.—Study of properties of gases; oxygen, hydrogen, and carbon dioxide. Through the daily record of weather conditions: barometric pressure, with the construction of a barometer; air movement, winds, heating, and ventilation; evaporation and condensation as related to rain, snow, dew, and frost.

*Number*.—I. Correlated: Problems growing out of the study of barometric pressure and making of the barometer; of the thermometer in marking ungraded thermometers and comparing the centigrade and Fahrenheit scales; of the force and velocity of winds.

II. Outcome: The skill to use decimal and common fractions; a knowledge of denominate numbers gained by the children's own use of the various weights and measures in their work. When needed, exercise will be given to insure skill and freedom.

*English*.—Recording of all science experiments: written work in connection with history and geography; spelling, study of verbs, and analysis of simple sentences.

*French*.—Conversation and games. Stories of La Fayette, Rochambeau, Marie Antoinette at Versailles, Louis XVI. Reading and dictation from Claude Hugué and Maxime Petit's *Premier livre d'histoire*.

*German*.—A continuation of the work commenced in the autumn quarter.

*Music*.—The songs to be learned are "America," Grieg's "Fatherland Psalm," the "Marseillaise," "Yankee Doodle," and Rheinberger's "Spinning Song." These tunes will serve as material for gaining technical skill in reading and writing music.

*Art*.—Illustrative drawing in connection with history: ships of the period, weapons and fortifications, tools and machinery. In connection with

geography, painting of typical landscapes. Record of observations in nature study.

*Manual training*—Visits to the shops to see good hand-made furniture and smaller articles of handcraft. Designing and making of articles, with accompanying lessons in mechanical drawing.

## SEVENTH GRADE.

ELSIE AMY WYGANT.

The subject chosen for study during the winter quarter is the period of geographical discovery from the time of Marco Polo to the circumnavigation of the world by the ships of Magellan. This period is so rich in its possibilities of interest that it seems wise to devote the time of the four "central subjects" to the development of its various aspects—historical, geographical, scientific, and mathematical.

The historical topics of the subject will be somewhat as follows: Greek conception of the earth as a plane bounded by Oceanus; the later doctrine that the earth is spherical, that the sun and stars revolve about the earth; the belief that the earth is divided into zones, with a tropic zone which is impassable on account of the intensity of heat; estimates of the dimensions of the earth.

The effect of the crusades upon travel, and of the travels of Marco Polo upon geographical interest of the period.

Henry, Prince of Portugal, "the Navigator," his discoveries and his explorations which proved the fallacy of the Greek theory of the tropics.

The enthusiasm in the search for a water route to India increased by the tales of travelers from the East.

A new route to India made imperative by the fall of Constantinople in 1453.

Life and work of the three great explorers; Christopher Columbus, Vasco da Gama, and Ferdinand Magellan.

REFERENCES: ELEMENTARY SCHOOL TEACHER, Vol. II, No. 8, pages 626-8 (in this article Miss Deratt has worked out the above subject for the seventh grade, including a most helpful bibliography, which is largely quoted below); Fiske, *Discovery of America*,<sup>1</sup> B 1978; Payne, *History of America*, B 1985; Draper, *Intellectual Development of Europe*; Yule, *Cathay and the Way Thither*, I 2376; Yule, *Marco Polo, His Book*, Vols. I and II, I 1576; Winsor, *Narrative and Critical History of America*, Vols. I and II, B 1980; N. Ponce de Léon, *Caravels of Columbus*, V 1562; Ford, *Writings of Columbus*, C 10651; Guillemaud, *Magellan*, C 11235; Irving, *Columbus*,

<sup>1</sup> Throughout the article the references are followed by the Chicago Public Library cataloguing in the hope of saving Chicago readers some time and effort.

I 3579; Kingsley, *The Hermits*, C 104; Lamartine, *Life and Time of Columbus*, P 623; Vasco da Gama, *Century*, Vol. II, p. 163; "Marco Polo," *Harper's*, Vol. XLVI, p. 1; "Magellan," *ibid.*, Vol. LXXXI, p. 357; "The Great Voyagers," *ibid.*, Vol. XX, p. 234; "Columbus," *Century*, Vol. XXII, p. 123; *Harper's*, Vol. XXXVIII, p. 721.

Parts of the above and the following list can be used by the children:

Becker, *Adventurous Lives*, Vol. II., pp. 63-85, C 1300; S. K. Bolton, *Famous Voyagers*, C 10276; Fawle, *Marco Polo*, C 1610, and *Magellan, or First Voyage Around the World*, Vol. III, C 1610; Wright, *Marco Polo*, I 3358; Murray, *Marco Polo*, I 3764; Knox, *Travels of Marco Polo for Boys and Girls*, I 8083; Brooks, *Marco Polo*; Hall, *Stories of Adventure*; Seelye, *Columbus*; Hale, *Stories of Discovery*; Beazley, *Prince Henry, the Navigator*.

*Geography.*—To get a sympathetic view of the explorers of this period of geographical discovery necessitates seeing clearly their environment and recognizing the geographical problems which confronted them.

The "known world" of Ptolemy will be compared with the present known world.

A possible route will be traced westward from Spain to India, through the Panama canal. The advantage of this canal in shortening the route will be discussed.

A general conception of Eurasia will be gathered by the following study: Known routes from Europe to the East in Marco Polo's time. Length of Marco Polo's journey, and detailed study of China and India in this connection. Effect of location of mountains, plains, plateaus, and rivers upon routes of travel and centers of civilization. Home of the great explorers, the Spanish peninsula.

The northern and western coast of Africa will be studied in connection with the discoveries by Prince Henry. Following Vasco da Gama's route the study of Africa as a continent will be concluded.

An outgrowth of the story of the circumnavigation of the world by the ships of Magellan will be a general view of the relation of the continents, the location of the great islands, and a special study of the Philippines.

The class will make several visits to the Field Museum. Physical, relief, and contour maps, pictures and lantern slides will be used, and costumes and materials from the various countries will be brought into the class-room.

Distances will be translated into terms of time necessary to travel the route by modern methods. The following table may aid in gaining a standard of distance:

|                         | Approximate. | Actual.  |
|-------------------------|--------------|----------|
| Chicago to Aurora - - - | 40 miles     | 40 miles |
| Elgin - - -             | 40           | 40       |
| Joliet - - -            | 40           | 40       |
| Dune Park - -           | 40           | 40       |
| Milwaukee - - -         | 85           | 85       |
| Lake Geneva - -         | 85           | 85       |
| Ottawa, Ill. - - -      | 85           | 84       |

|                              | Approximate. | Actual.   |
|------------------------------|--------------|-----------|
| Chicago to Elkhart, Ind. - - | 100 miles    | 100 miles |
| La Salle, Ill. - -           | 100          | 99        |
| Bloomington, Ill. - -        | 100          | 126       |
| Rockford, Ill. - -           | 100          | 92        |
|                              |              |           |
| Toledo - - -                 | 300          | 244       |
| Cleveland - - -              | 300          | 357       |
| Des Moines - - -             | 300          | 350       |
| St. Louis - - -              | 300          | 378       |
|                              |              |           |
| Toronto - - -                | 500          | 507       |
| Omaha - - -                  | 500          | 503       |
| St. Paul - - -               | 500          | 510       |
| Kansas City - - -            | 500          | 518       |
|                              |              |           |
| New York - - -               | 1,000        | 910       |
| Boston - - -                 | 1,000        | 1,039     |
| Denver - - -                 | 1,000        | 1,083     |
|                              |              |           |
| San Francisco - - -          | 2,500        | 2,421     |
| Portland - - -               | 2,500        | 2,540     |

During the work the children will make maps of Eurasia, Africa, China, India, the Philippines, and the eastern hemisphere. They will use various material, such as sand, composite clay, pencil, and chalk. They will picture by means of paints and pencil typical scenes, the people, their customary employment, characteristic clothing, and habitat.

REFERENCES: ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, pp. 53-6; Keane, *Evolution of Geography*, I 9867; Bunbury, *History of Ancient Geography*, I 2198; Bevan and Philott, *Medieval Geography*; Vincent, *Commerce and Navigation of the Ancients in the Indian Ocean*; Jacobs, *Story of Geographical Discovery*, I 9866.

Eurasia: Stanford, *Compendium of Asia, Compendium of Europe*; Mill, *Realm of Nature*; Réclus, *Earth and Its Inhabitants*, volumes on Europe and Asia, R 701; Mill, *International Geography*, I 9872; Sven Hedin, *Through Asia*.

China: Williams, *Middle Kingdom*; Huc, *Chinese Empire and Travels in Tartary, Thibet, and China*; Smith, *Village Life in China*; Vincent, *The Land of the White Elephant*, I 1386; see *Pool's Index* and *Chicago Public Library Card Catalogue* for full bibliography.

India: *Statistical Map of India*, 1895; Hunter, *Indian Empire*; *Brief History of Indian People*; Murray, *Handbook of India, Burma, and Ceylon*; Ferguson, *History of Indian and Eastern Architecture*, Chicago Public Library list catalogues, 150 books on India.

*Science*.—Those natural forces which affect navigation will be considered in so far as the understanding of them is necessary to the appreciation of the work of the explorers.

The wind: its cause and movement; trade winds and the calms of the equator and of Capricorn and Cancer.



Storms: cause, methods of forecasting (air pressure, forms of clouds, meaning of "high and low areas," "storm center," etc.).

Ocean currents: cause, direction, effect.

The observations recorded on the weather chart will be those which will aid in the work of mathematical geography, such as observations of length of day and night, and movement of sun, moon, and stars.

Records of monthly amount of rainfall and of the daily temperature will be continued, as these are essential to the conception of a seasonal picture which the children began to gain in October.

REFERENCES: Parker, *Familiar Talks on Astronomy* (this text-book will be used by the children), K 8627; Young, *The Elements of Navigation*, K 5798; Giberne, *The Ocean of Air*, K 7498; Ferrel, *Popular Treatise of the Winds*, K 7450. Any good physical geography.

*Mathematics.*—In order that the children may appreciate the heroism and sagacity of the explorers of this period, the problems which occupied them must be met and solved by the children's own efforts, not by their acceptance of the world's knowledge. To state the fact that the earth is round is today a simple matter; to prove it today approaches the mental stimulus of its discovery. For this reason the following problems will be presented: Is the earth a sphere? If today you could be put into the midst of those men of the Middle Ages, could you prove its shape to them?

Proofs: appearance of vessel coming in from sea; circumnavigation of the globe; the higher one ascends, the more he can see; shape of the horizon; form of earth's shadow on the moon. Here it will be necessary to teach the relation of earth, sun, and moon; the term "tangent of a circle."

Before marine instruments were perfected, how did sailors map their course when beyond sight of land? This involves teaching of subject of longitude and time; location of pole-star and "dipper;" latitude found by comparison with altitude of pole-star; four positions of "dipper" which indicate pole-star to be at its upper or lower culmination, due east or west of the pole; what is meant by altitude of a star; how to measure this angle.

The observations made daily on varying length of day and night; movement of sun, moon, and stars; change of season will be considered and explanations worked out.

*Manual Training.*—During the quarter each child will make a model of, a vessel so that the series may illustrate the development of boat-making. Some such series as the following will be made and given to the school museum. The series used will be worked out by the class; then each pupil will choose the vessel he wishes to make and devote his study to this particular type. The models at the museum will be studied and books put at his disposal for study:

(1) Floating log; (2) Logs bound together (catamaran); (3) Logs bound together with bush for sail; (4) Dugout; (5) Welsh coracles; Egyptian boat; Greek galley; Norse ship; Moorish corsair; Venetian gondola; Chinese junk; Columbus's ship; "Mayflower;" Mississippi sidewheeler; steamship; gunboat (using sheet tin for covering); plans and drawings of modern liners.

## EIGHTH GRADE.

KATHARINE M. STILWELL.

IN the winter quarter it is purposed to give the pupils of this grade, largely by the use of literature, some ideals of social and political life.

The work in Roman history, consisting of some phases of both the external and internal growth of the Romans, will also be used for this purpose. The class will follow the growth of Rome from a small city-state on the coast to a power in control of the whole Italian peninsula. Details of the wars will not be discussed, but conditions, such as the state of civilization of the Italians and their geographical environment, will be presented, which will enable the pupils to reason out the conflict between the plain and the mountain peoples. They will be led to regard this as a struggle in the interests of civilization which resulted in the unity of Italy. At this point they will compare the Roman increase of territory with the movement of the American people from the Atlantic coast plain to the middle and western United States.

They will study the Roman method of governing the conquered peoples, getting information from the different textbooks at their disposal.

The pupils will next consider the situation and character of the Mediterranean states and Rome's relation to these. They will thus see what Rome had to fear from Carthage, and how for her own preservation it was essential to her that the Carthaginians should advance no farther eastward. This will help them to understand the causes of the Punic wars. They will then read the story of Hannibal from Plutarch's *Lives*.

The class will see how, as a result of this war, Rome entered

into the affairs of the eastern Mediterranean, and was drawn into a career of conquest which was not stayed until Greece, Spain, northern Africa, Macedonia, and Asia Minor were brought under her sway.

The Roman government of these provinces will be compared with England's colonial policy, the class reading in this connection selections from Kipling's "Song of the English." Again they will compare Rome's extension of territory with the expansion of the United States, and her governmental relations to her provinces with the policy of the United States in Hawaii, Cuba, and the Philippines. While considering this topic they will read Moody's "Ode in Time of Hesitation."

Throughout the work the close relation existing between the history and the geography will be brought out.

During this quarter the class will try to read some of the short Latin stories which illustrate Roman ideals.

The outlined study of Rome and its development necessarily implies a study of the Roman home, since home life is the basis of social and political life. A comparison and contrast between ancient and modern conditions will help to give an understanding of our own home life, and an appreciation of its possibilities.

The work in home economics (Mrs. Norton) will begin with a review of the Greek and Roman houses by means of stereopticon pictures. The points of difference between these houses and our own will be discussed, as well as the conditions modifying the form and arrangement of dwelling-houses, such as climate, habits of the people, and degree of civilization. The influence of scientific discoveries upon our houses will be considered, and will lead to a study of the modern house. This will include:

I. The plan of the house: (1) Comparison with plan of Roman house. (2) Drawing of ground plan of house, either for city, suburb, or country; with the necessary instruction in mechanical drawing, and in mathematics. (3) Comparison of types of houses in different sections of our own country; and the reason for these differences. (4) Visiting of houses in process of construction.

II. The finishing and furnishing of the house: Woods used in house; form and color in furniture; decoration of walls.

III. Scientific discoveries and inventions, as applied to modern houses :  
(1) Use made of these now ; possibilities of the future. (2) Special study of ventilation and heating : (a) Necessity for ventilation ; experiments to show the contamination of air, and simple methods for testing the purity of air ; effect on the body of bad air ; number work in calculating amount of air needed, and of air space per person. (b) Methods of ventilation : "natural" ventilation ; law of diffusion of gases ; aids to natural ventilation in dwelling-house ; investigation of the home in this respect ; ventilation of new school building. (c) Heating : connection with ventilation ; different methods in use in the home ; furnace and steam heating ; fuels ; possible use of electricity.

IV. Living in the house : Two chief necessities of life—water and food. Water : (a) use in body ; (b) general water supplies ; Chicago system compared with Roman aqueduct ; other methods of supply. Food : (a) the body as a machine ; food as a fuel ; (b) preparation of food ; right application of heat ; practice in cooking.

## BOOK REVIEWS.

---

*Individuality and the Moral Aim in American Education.* The Gilchrist Report Presented to the Victoria University. By H. THISELTON MARK. London: Longmans, Green & Co., 1901. Pp. xiii+298.

*Moral Education in American Schools*, with Special Reference to the Formation of Character and to Instruction in the Duties of Citizenship. By the same author. 1902. Pp. iii+238.

*Education and Industry in the United States.* By the same author. 1902. Pp. ii+126.

INTELLIGENT criticism is always welcomed by the sincere worker, and when that criticism is also kindly and appreciative, it is cause for rejoicing. The wonder is that Mr. Mark in his four months' visit could have accomplished the vast amount of investigation, classification, and judgment evidenced in his books, *Individuality and the Moral Aim in American Education* and *Moral Education in American Schools*.

Visiting many cities east of the Mississippi, from Boston to Chicago, from Washington to Minneapolis, he was untiring in interviewing many educators, teachers, supervisors, principals, and superintendents, writing to many more whom he could not meet; visiting schools of the various grades, from kindergarten to teachers' colleges and universities; examining the work of special schools for special classes, and informing himself carefully and thoroughly of our methods. He seemed to have the divining rod to lead him where the information he sought could be obtained, and the philosopher's stone to make that information of value in his quest.

In the first book mentioned Mr. Mark discusses individuality in relation to education—school organization, methods of classification, collective teaching, school discipline, the teacher, and the child. He recognizes that the term may be applied to that development which sets the individual against the manners and restraints of society, but he admits that our aim is to teach the child to realize his ability to adapt himself to social forces and to become a leader and a power for good in society.

Mr. Mark explains to his English readers our system of superintendence, and thinks it "self-evident that if individuality is to be looked for in the child, it must also be looked for in the teacher; and if in the teacher, in the principal; and if in the principal, in those whose regulations he administers, especially the supervisors and the city superintendent." It is suggested also that better work might be done if the school and politics were not united. The powers and duties of the school board, of supervisor, principal, and superintendent, are explained and due credit given to Dr. Harris and the late Colonel Parker for their influence in the great advance in school organization effected in the last twenty-five years.

The question of individuality in classification is discussed under the heads of sectional teaching in individual grades, with a verdict in favor of two or three classes in a room of primary grades; of close grading when classes are formed but a few months

apart; of individual promotions and of work in the ungraded schools. In regard to a too eager advocacy of rapid promotion, Mr. Mark says: "There is every temptation to the American child to be in a hurry; and it cannot be regarded as a trait which calls for immediate development in American character."

Mr. Mark discusses the advantages of collective teaching, showing the gain to the individual coming from the thought of many who are engaged upon the same problem. Individuality in classes is obtained by the quicker pupils explaining the work to the slower members of the class. The elective system is examined and the plan adopted in some high schools of individual or small group work, where credit is given as soon as the work is accomplished. "In America there are two causes which have brought this generous extension of freedom of life and spirit into the public schools. One is that in America it is democracy first, whatever comes second; the other is the never-absent consciousness of the future of America, of what her sons and daughters are to make her. Hence the whole of the American system centers increasingly in the child. The two greatest external influences in American education are Pestalozzi and Froebel; the two great internal influences are democracy and the thought of the future, of which the present is the upbuilding."

As to discipline, Mr. Mark says: "Freedom without license, movement without disorder, ease without idleness, represent the American standard of discipline." Quotations are made from Dr. Dewey's *School and Society* regarding our ideal of self-government, individual and social. While appreciating the advance upon the old "repressive government," Mr. Mark "feels that the American school would strengthen itself if its curriculum included slightly more that would appeal to the child as a task."

Mr. Mark found that individuality in the teacher depended much upon the principals of the schools he visited. It is brought about by the recognition of the fact that individuality in the child is desired, and that this cannot be obtained under a teacher who is bound to follow the plans of another. The continuous training of teachers in the many institutes is found to strengthen individuality, and the matter of departmental work in elementary schools is debated with a favorable verdict as giving both teacher and pupil greater power and individual development.

The work of the kindergarten, the closer relation of school and home, school art leagues, the educational press and the philanthropic spirit in education, are all discussed at length by Mr. Mark. The most interesting chapter treats of the individuality of the child and discusses the aims, methods, and results of child-study experts. "The typical American teacher has a habit of getting behind the will of the child instead of confronting it."

The fairness of presentation and the breadth of view of the writer commend his books to all who wish to have a résumé of much that is now being done in American schools, the theories of those devoting themselves to this great work, and the practical outcome as shown in the work of the schools.

In *Education and Industry in the United States*, Mr. Mark gives to his English readers the latest expert opinion regarding the value of manual training, and reviews this work from the kindergarten to the institutes of technology. The subject is placed fairly before the reader, testimony being offered from cities where manual training is a part of every grade work, where it is given to high-school students only, and where special manual training schools exist. The Massachusetts law of 1895 is referred to, whereby every town of that state of over 20,000 inhabitants must offer manual train-

ing to the children in the high school. The valuable work of universities in the line of agriculture and kindred subjects is commended, and the fine trade schools established by private munificence are described. The courses of study of the Laboratory School of the University of Chicago, of Pratt Institute, the commercial course of the Boston High School, and many others are given.

Mr. Mark speaks with praise of the primary-grade work in all his books. He says: "These grades are at the present moment a unique feature in American education, and there best appears the ideal relation of hand-work to head-work. . . . In all the best primary schools the constructive or hand-work is a mode of thought-expression. Learning, in other words, is not inwardly knowing; it is a power to do, a power of outwardly expressing. This is a kind of schooling that one absolutely cannot forget. It is acquired industrial power, and at the same time it stands for more completely vitalized brain."

The value of manual training received in the Washington schools where it is a part of the work of every grade was shown in the late war, when youths of the third and fourth year of their course in the high school were drafted off into the workshops, and not only proved their efficiency, but soon equaled the workshop mechanics in their earnings. Mr. Powell is quoted: "The ideal is to place the kindergarten beneath the first grade and find that it fits, and to put the Polytechnic high school on the top and find that it has its place."

In considering Mr. Branch Taylor's able argument in favor of a college education for business men, Mr. Mark says: "It must be confessed that some of these arguments apply with much greater force in America than in England—especially in the case of those based upon the newer conception of education and the new methods of instruction. In the universities, *e. g.*, as elsewhere, the teacher is looked upon not so much as a dealer in knowledge as a trainer of men. What probably those think who advocate a college education is that a brain (or mind) is not a cabinet of niches or compartments, but an organism capable of development and one of whose chief functions is the interconnection of niches. The great mind, whether in business, politics, science, or literature, is one in which the power of constructive co-ordination is strongly developed."

In the introductory paragraph of the second part of this book, made up of reports from different committees, Mr. Mark raises the questions: "How do trades-union standards of work, which may have been adopted for the protection of the average or the less efficient worker, harmonize with the educational ideals of the manual-training workshop? Or how does the separation of employer from employed, brought about by great combinations of capital, fit in with the spirit of a technical course, which has in view the training of the man as well as of the mechanic?"

The questions are certainly pertinent, and no doubt will lead to valuable investigation and replies.

FLORENCE HOLBROOK.

FORESTVILLE SCHOOL,  
Chicago.

## EDITORIAL.

### THE RELATION OF ACADEMIC AND PROFESSIONAL WORK IN THE SCHOOL OF EDUCATION.

IN an article on the training of the teacher, Colonel Parker once wrote : " A four years' course in a good college should supplement a high-school course before the student enters upon professional training. It is far preferable to have a college course without professional training than to have only a high-school course with training. The requirement should be the college course and professional training." And again : " There is no question that the fundamental cause of imperfect teaching is ignorance of the subjects to be taught, nor that the abuse of the text-books is largely due to the same cause ; it is also true that the mere study of methods cannot be substituted for deficiency in knowledge of subjects taught."

These words show the ideal of the scholarship necessary for teaching held by him who was the founder, in an educational sense, of the School of Education. The union of the Chicago Institute, as this school was first named, with the University of Chicago was the realization of Colonel Parker's desire to see the widest opportunities for culture within the reach of the teacher. This union also reveals a recognition on the part of the University that teaching has become a profession demanding its own particular kind of preparation. The long struggle for special training begun in this country by Horace Mann appears to have culminated in the attempt of the higher institutions of learning to furnish practical work in pedagogy.

Perhaps the slow advance of the movement for the professional training of teachers has been due, in part, to the fact that much of the work done in this direction in the past was without scientific foundation. The idea of such a thing as methods in teaching suggests to the average person something in the nature of a patent process for driving facts into the mind, a piece of machinery that has a merely temporary vogue, and is then cast aside as a worn-out thing in favor of some new invention. The very term "method" has been brought into such disrepute that there are few indeed who would care to take up the cudgels in defense of its ordinary acceptance. This attitude is the outcome of training that implies fixed ways of presenting subjects of study, routine plans of work, and special devices for obtaining results. Such training has no relation to principle, and naturally puts under a ban the whole matter of professional study. There is no place for the imitator in the art of teaching. The teacher, especially, needs flexibility of mind, the power to adapt theories to meet the demands of a given situation. It is safe to say that whatever leads one teacher to copy a scheme of work from another, however great the authority, tends to make insight into educational principle impossible.



In the groping toward a scientific basis for education which has characterized the last few years it is small wonder that details of procedure have been exalted above principles. As a matter of fact, few principles have seemed sufficiently clear to furnish a practical guide. Belief in what the old psychology taught about the faculties of the mind had to be torn up by the roots and a new faith established before there could be any definite foundation to build upon. At present we are beginning to emerge from the era of vagueness, and, with the advance of scientific investigation in psychology and sociology, are gradually rationalizing our methods of work. Dr. Dewey has said: "I believe that with the growth of psychological service, giving added insight into individual structure and laws of growth, and with growth of social science, adding to our knowledge of the right organization of individuals, all scientific resources can be utilized for the purposes of education." These advances make new demands upon teachers and call for a new kind of preparation for their work.

The first necessity for teaching is an acquaintance with the general conditions of mental growth, and with the special characteristics of different stages of development, and, to this end, the study of psychology is of the greatest importance. Perhaps the most significant change in our educational theory comes from the discovery of the close relation of thought and action in all sound living. Slowly but surely the reconstruction of the school goes forward, transforming it from a field of mere acquirement to one of active experience as well. It is no longer set apart from the community for the acquisition of knowledge, but is organized in accordance with the community around certain fundamental social occupations. The recognition of the activities in the school, with the consequent reorganization of the curriculum and methods, compels teachers not only to equip themselves with requisite scholarship, but also to understand the basis of knowledge and its intimate connection with the affairs of real life.

The School of Education brings its students into contact with the great changes that are taking place in elementary and secondary schools. By this means they learn something of the demands of advanced educational thought. To give this general view of the educational situation is the purpose of the earliest professional work in the school. By observation in the practice school, and by discussion of the curriculum and the methods of study employed therein, the students gain a standpoint for judging the adequacy of their own acquirements and an impulse toward a more complete and thorough scholarship. This enables them to select subjects of study more wisely than would otherwise be possible, and thus to do college work of the greatest advantage to their future needs. While it would, no doubt, be unwise to narrow their course to those branches which they expect to use directly in their teaching, yet in the multiplicity of possible studies some modification may well be made with reference to the particular demands of their chosen calling.

Such work also gives students the advantage of seeing a definite use for the knowledge gained. While pleasure in investigation for its own sake may furnish a sufficient motive for work to the mature student, still the complete educational value is obtained by making practical application of knowledge or by seeing its possibilities in social service. It is possible, even with students of university age, to have too great a separation, if not a complete divorce, between knowledge and its end, and thus to educate individuals who can make no valuable use of what they know.

The professional work also involves consideration of subject-matter from the standpoint of the child's attitude toward it as well as from that of the teacher. The studies of the curriculum represent formulations of knowledge made as the result of social experience, and can be appreciated by the child only in so far as his own experience gives him the power to interpret them. It is necessary that the teacher should consider the ability of children, with their varying experiences, to comprehend and use the knowledge resulting from the experiences of others. Teaching implies not only presentation of subject-matter, but also insight into the connection of this material with the mental attitude of a given group of individuals at a given time. The subject-matter must be put into such a form that the children may make it their own and utilize it in gaining further experience.

The teacher's problem is threefold: first, to guide experience and to detect the meaning of a particular attitude of mind; second, to select from the vast accumulation of knowledge the portion necessary for the next step in growth; and, third, to formulate this knowledge, not in general terms, but in the best way for its comprehension under these especial conditions. If this be true, it seems apparent that professional training should furnish an opportunity for discussion of the adaptation of subject-matter to children of different ages and different stages of growth. Sufficient work of this character is necessary, not only to illustrate the theory involved, but to form the habit of presenting studies in their relation to experience. Since it seems natural for the average mind to adopt methods in teaching similar to those pursued in its own education, the establishment of a new view of the meaning of study requires time, varying in amount according to the characteristics of individuals. Practice in organizing subject-matter in relation to the needs of different groups of children may prevent teachers from relapsing, after a brief struggle, into their previous habits of work.

It is scarcely necessary to say that the study of psychology furnishes the student with the principles required for interpreting attitudes of mind, and for the formulation of subject-matter in relation to individual needs. It is only as psychology gives this foundation that education can claim to be a science. When teachers are equipped with adequate knowledge of the subjects of study, and a thorough acquaintance with psychology, and have sufficient practice in applying psychology to the adaptation of subject-matter in teaching, it is reasonable to expect a rapid improvement in the educational situation.

EMILY J. RICE.

## BOOKS RECEIVED.

- First Steps in Reading.* By Gertrude Anderson Alexander, Agnes Barden, and D. Q. Abbott. Chicago: Central School Supply House, 1900. Pp. 118, 12mo; boards.
- How to Live.* By Edward Everett Hale. Boston: Little, Brown & Co., 1902. Pp. 201, 12mo; cloth.
- The Iron Star and What it Saw on its Journey Through the Ages from Myth to History.* By John Preston True. Boston: Little, Brown & Co., 1902. Pp. 146, 12mo; cloth.
- Mental Arithmetic.* By I. C. McNeill. New York: American Book Co., 1902. Pp. 141, 12mo; cloth.
- The Natural Arithmetic:* Books I, II, and III. By Isaac O. Winslow. New York: American Book Co., 1901. 12mo; cloth.
- A Primary History of the United States.* By John Bach McMaster. New York: American Book Co., 1901. Pp. 254, 12mo; cloth.
- A School History of the United States.* By John Bach McMaster. New York: American Book Co., 1897. Pp. 486, 12mo; half leather.
- Rab and His Friends, and Other Dog Stories.* By Dr. John Brown, edited by C. W. French and illustrated by Angus MacDonall. Chicago: Rand, McNally & Co., 1902. Pp. 150, 12mo; cloth.
- Short Hand Instructor.* By Isaac Pitman. Twentieth century edition. New York: Isaac Pitman & Sons, 1903. Pp. 144, 16mo; boards.
- The Sprague Classic Readers:* Book I, A Primer. By Sarah E. Sprague. Boston: Educational Publishing Co., 1902. Pp. 112, 12mo; cloth.
- The Taylor School Readers:* First and Second Readers. By Frances Lilian Taylor. New York: Werner School Book Co., 1900 and 1902. 12mo; cloth.
- Wheeler's Graded Readers:* A Primer. By Gail Calmerton and William H. Wheeler. Chicago: W. H. Wheeler & Co., 1900. Pp. 127, 12mo; cloth.
- Wheeler's Graded Readers:* A First Reader. By Gail Calmerton and William H. Wheeler. Chicago: W. H. Wheeler & Co., 1901. Pp. 127, 12mo; cloth.
- Wheeler's Elementary Speller.* Chicago: W. H. Wheeler & Co., 1901. Pp. 160, 12mo; cloth.

## THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

## Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

# SOZODONT

A perfect Dentifrice for the

## Teeth and Mouth

SOZODONT LIQUID . . . 25c  
SOZODONT TOOTH POWDER . . . 25c  
Large LIQUID and POWDER . . . 75c

# 25<sup>c</sup>

### A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

**HALL & RUCKEL, New York.**

# MENNEN'S



**Delightful After Bathing  
A Luxury After Shaving**

**Beautifies and Preserves the Complexion.**

A positive relief for Chapped Hands, Chafing, and all afflictions of the skin. For sore, blistered and sweaty feet it has no equal. Removes all odor of perspiration. Get Mennen's (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25c.

AVOID HARMFUL IMITATIONS. (SAMPLE FREE.)

GERHARD MENNEN CO., Newark, N. J.



Impure air and sickness are caused by OIL and GAS Stoves, faulty furnaces, and dry steam heat. In every living room keep an open vessel containing water and

## Platts Chlorides,

*The Odorless Disinfectant*



# Steady Nerves

Two kinds of folks above all, who need steady nerves—the nervous kind, and the nerveless kind.

Pabst Malt Extract, the "Best" Tonic, is the one kind of tonic that helps both kinds of folks.

It steadies unsteady nerves—it makes steady nerves.

Run-down people can't get out and exercise.

## **Pabst** **Malt Extract** *The Best Tonic*

is the one tonic that takes the place of actual exercise.

It builds flesh—nurtures nerve—helps health.

Good for all sorts of people out of sorts.

The one tonic that tones.

Sold by all druggists.

Our booklet is now ready for mailing.

Address

**PABST EXTRACT DEPARTMENT**  
MILWAUKEE, WIS.

# SHREDDED WHEAT BISCUIT

Split  
Toast  
Enjoy

96

No attempt to improve on the work of nature in making Shredded Wheat. The properties naturally organized are scientifically cooked. That is all.

Send for "The Vital Question" (Cook Book, illustrated in colors) **FREE.** Address



**The NATURAL FOOD CO., Niagara Falls, N. Y.**

## REPETITION

is the life of advertising—It is also the life of the largest mail-order seed trade in the world—

## BURPEE'S!

Were it not for repeat-orders every year from satisfied planters we could not supply the

## Best Seeds that Grow

at such moderate prices. We want every one who appreciates quality to write for **Burpee's Farm Annual for 1903.** Long known as "the Leading American Seed Catalogue," it is better now than ever before. An elegant book of 184 pages, with beautiful colored plates and hundreds of illustrations, it tells the plain truth. **Write to-day! Do not delay! It's FREE.** W. ATLEE BURPEE & CO., Philadelphia.

"RIDE A COCK-HORSE TO BANBURY CROSS,  
TO SEE A FINE LADY UPON A WHITE HORSE,  
RINGS ON HER FINGERS, AND BELLS ON HER TOES,  
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME  
TO HER GLAD INFANT, THE WHILE KEEPING TIME,  
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN  
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.  
THROUGH  
**MRS. WINSLOW'S SOOTHING SYRUP**  
OVER FIFTY YEARS SOLD  
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

## A CANADIAN LANDMARK

Over 67% of all typewriters bought by the Canadian Government during last fiscal year were Smith Premiers



ILLUSTRATED CATALOGUE FREE.  
THE SMITH PREMIER TYPEWRITER CO.  
SYRACUSE, N.Y. U.S.A.

THE BEST  
SEND FOR CATALOGUE

FIFTY  
STYLES

TRADE MARK  
REGISTERED

PAUL E. WIRT  
FOUNTAIN PEN  
ALL DEALERS  
OR ADDRESS BLOOMSBURG, PA.

**W**HY not use a clean Fountain Pen, one that will write and write always, without skipping, blotting, or scratching?

The above Fountain Pen is and has been sold on its merits all over the world for sixteen years, and is unconditionally guaranteed.



THE EARLIEST  
HAMMOND  
DOES BETTER WORK  
THAN THE NEWEST  
MACHINE OF ANY  
OTHER MAKE

## The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

**The only polyglot** using on the same machine, one hundred type shuttles, in twenty-six languages, instantly interchangeable.

**An indestructible machine.** Will last generations and outlive ten type-bar machines. Writes like print—prints like writing.

**The best manifold.** The one machine producing perfect and permanent alignment with uniform impression.



**The Hammond  
Typewriter  
Company**

69th to 70th Street, East River

New York, N. Y.





"THE NAME IS EVERYTHING."

# Esterbrook

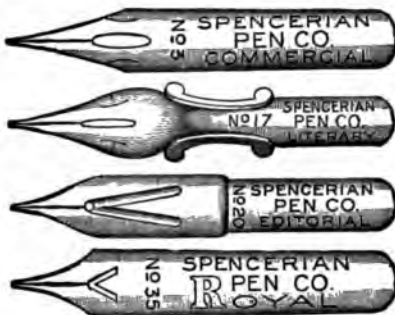
on a pen is an absolute  
guarantee of its excellence

No. 130. Easy Writer.  
Is exactly what its  
name implies. Try it.  
Over 150 varieties of  
other styles to suit  
every purpose. All  
stationers have them.  
Accept no substitute.

THE ESTERBROOK STEEL PEN CO.  
Works, Camden, N. J. 26 John Street, N. Y.

## SPENCERIAN STEEL PENS

The Standard of  
Excellence for  
over forty years



Select a pen for your writing from  
a sample card of special numbers for cor-  
respondence. 12 pens for 10c., postpaid.

SPENCERIAN PEN CO.  
349 Broadway, NEW YORK CITY

HANGING ON TO  
A GOOD THING



It pays to stick to  
a good thing when  
you find it. That  
is why it will pay  
you to use

**Dixon's**  
American  
Graphite  
**Pencils**

in your schools, your homes, or in your business, in  
preference to any others. They are the most econom-  
ical because they last the longest. They make a good  
clean see-able mark. Tell us the position you hold in  
the educational, literary, or scientific world, mention  
this paper, and you will receive samples that will sur-  
prise you.

JOSEPH DIXON CRUCIBLE CO.  
Jersey City, N. J.

## Densmore Does More



Ask  
About It  
**Densmore Typewriter  
Company**

309 Broadway, New York





# Copy Your Letter While You Write

BY USING THE

## CARBON LETTER TAB

*Letter Copying Made Cheaper, Cleaner, and More Convenient*

100 Letters and 100 Copies in Each Book. Bound in Board  
Covers with Carbon, Ready for Use

**Letter Size** (8½ x 11), Ruled or Plain . . . . . **\$0.75**  
**Note Size** (6 x 9½), Ruled or Plain . . . . . **.50**

*Sent postpaid on receipt of price*

**S. D. CHILDS & CO.**

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

# CROWN PIANOS

*Noble in Tone*

*Chaste in Appearance*

*Durability Unquestioned*

**GEO. P. BENT**  
Manufacturer Chicago



## ORCHESTRA

Instruments, Violins, Flutes, Mandoline, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.  
The World's Largest Music House. Sells "Everything Known in Music."

## PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent instrument at \$299, \$400 pianos. Easy fully equal to many monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

## LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music"



## Rare Old Violins

Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.

## "MODERN" MIDDLE JOINT FOUNTAIN PENS



The Largest and Best Gold Pens  
The Highest Class Fountain Pens

Do not leak at the joint; hold more ink than others because they can be filled full

All forms of Fountain Pens, at moderate prices, including Automatic Self-Filling and Old Joint

*If no local dealer has a good assortment of "MODERN" Pens, send direct to the makers,*

**A. A. Waterman & Co, Dept G, 22 Thames St, New York**

# Insert your letter—turn

the crank—and your copy's made. No wet cloths to handle—no damp blotters to arrange—no screwing down letter-press.

It stands always ready. The pressure of the copying-rollers is always the same. Never a blurred letter, nor an indistinct copy.

Every copy clean and perfect—no faint copies to guess at. Copies made on the RAPID ROLLER LETTER COPIER can be filed right with the letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,

Rochester, N. Y.

Branches in N. Y., Phila., Boston, Chi., San F., and seven other cities.



"AFTER ALL **CARTER'S INK** IS THE BEST"



**An Old Bookkeeper is Discriminating**

Better take his advice and use CARTER'S  
Send for booklet "Inklings"—Free  
**THE CARTER'S INK CO. - BOSTON, MASS.**



## Mary Mannering says:

"I think the little story delightful!  
It is quite a new way of holding a  
conversation, and very interesting."

## Given Away

*With our compliments,  
"A Harmony in Two Flats."  
A short love story; bright,  
breezy, witty. By Julian L.  
Street. Beautifully illustrated  
in colors by Charles Williams.*

The accompanying illustration is a much  
reduced reproduction of the colored cover.  
A real work of art.

The book is free to you and will be sent on receipt of postage. Address Dept. Z.

**REGINA MUSIC BOX COMPANY,**

11 East Twenty-second Street, NEW YORK  
259 Wabash Avenue, CHICAGO

**Jaeger**  
PURE WOOL UNDERWEAR  
Protects  
Against  
Temperature Changes.

**The Standard Sanitary  
Underwear for Men, Women  
and Children.**

Endorsed by Leading Physicians.

Also various JAEGER Novelties and  
Specialties.

Don't forget that the Best is the Cheap-  
est and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

## Pan-Peptogen

A Food-Remedy for Indigestion.

Pan-Peptogen aids the weak and disordered stomach by helping it to do its work. It is not in itself a digestive agent, but supplies the elements which enable the enfeebled stomach to do its work properly.

Pan-Peptogen is not a drug, but a food that builds up the entire system while it is healing and strengthening the suffering stomach. It is the result of over 25 years of research and experiment, and is without doubt the most effective remedy for digestive disorders ever discovered.

For interesting descriptive matter in regard to this remarkable food remedy, address Pan-Peptogen Co., Ltd., 53 North Washington Avenue, Battle Creek, Michigan.

## The Most Fashionable Perfume

You will not find it in every store.  
It is not used by everybody.  
Sold at the best stores only.  
Used by refined people only.

EAU DE COLOGNE

**Johann Maria Farina**

Sternengasse 9-11 in Köln.



Queen Alexandra says:

There is something fascinating about users of 9-11 Cologne. It is certainly the most delicious perfume: it invigorates and refreshes.

INSIST on 9-11 Cologne and TAKE NO OTHER.

Import office, 1-3 Ann Street, New York.

## Skin Diseases

If you suffer from Eczema,  
Salt Rheum, Ringworm, Itch,  
Ivy Poison, Acne, or other  
skin troubles,

## Hydrozone

will cure you.

Cures sunburn in 24 hours. In cases of Prickly Heat and Hives it will stop itching at once, also will relieve mosquito bites.

Hydrozone is a scientific Germicide. Used and endorsed by leading physicians. It is absolutely harmless, yet most powerful healing agent.

As these diseases are caused by parasites, killing them without causing injury to the sufferer, naturally cures the trouble.

Sold by leading druggists.

**FREE** to any one sending me 10c. to cover actual postage, I'll send a bottle containing sufficient to prove to your entire satisfaction the claims here made. Pamphlet sent free. Address

*Prof. Charles H. Hareland*

59 W. Prince St.,

New York.

# Kayler's



**LICORICE TABLETS,**  
(5 & 10¢ PACKAGES.)

**FOR COUGHS & COLDS.**  
MADE WITH PURE SPANISH LICORICE.



**GLYCERINE TABLETS,**

(10¢ POCKET TINS.)

**FOR RELIEF OF**  
HOARSENESS & THROAT AFFECTIONS.



**ITALIAN PEPPS,**

(10¢ ALUMINUM POCKET PACKET.)

A HANDY POCKET STAMP BOX WHEN EMPTY.



**GUM IMPERIALS,**

(10¢ ALUMINUM BOXES.)

**ASSORTED PURE FLAVORINGS.**

IF NOT SOLD BY YOUR DRUGGIST,  
MAILED FREE UPON RECEIPT OF PRICE.

*Kayler's*

863 BROADWAY, N.Y. CITY.

# LIEBIG

**COMPANY'S**  
**EXTRACT**  
**OF BEEF**



LOOK FOR THIS  
SIGNATURE

*J. Liebig*  
IN BLUE

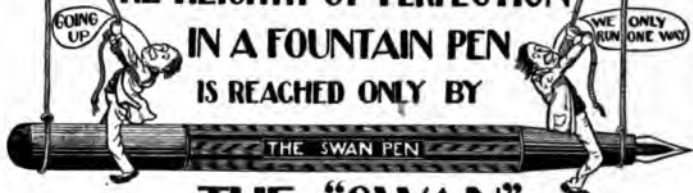


# PERFECTION

THE HEIGHT OF PERFECTION

IN A FOUNTAIN PEN

IS REACHED ONLY BY



J.F. Sowers

THE "SWAN."

SELF-  
CLEANING  
AND  
FILLING;  
DOES  
NOT  
DROP  
INK.

FOR SALE AT

THE EXCLUSIVE PEN STORE

96 STATE STREET, (STEWART BUILDING) CHICAGO

MABIE, TODD & BARD

# Decennial Publications The UNIVERSITY of CHICAGO

## FIRST SERIES

The First Series consists of ten volumes representing the work of research of the several Departments of the University. These articles are also issued in separate form as reprints. Size, quarto.

## SECOND SERIES

The following octavo volumes of the second series are announced :

- Vol. I. The Life and Repentance of Marie Magdalene.** By LEWIS WAGER. A morality play reprinted from the original edition of 1566-7, edited, with an Introduction, Notes, and Glossarial Index, by FREDERIC IVES CARPENTER. Pp. xxxvi+91, cloth. *Net*, \$1.00; postpaid, \$1.08.
- Vol. II. The Second Bank of the United States.** By RALPH C. H. CATTERALL. Pp. 538, cloth. *Net*, \$3.00; postpaid, \$3.20.
- Vol. III. Light Waves and their Uses.** By ALBERT A. MICHELSON; with 108 drawings and three colored plates. Pp. 164, cloth. *Net*, \$2.00; postpaid, \$2.12.
- Vol. IV. The Poems of Anne Countess of Winchelsea.** From the original edition of 1713 and from unpublished manuscripts, edited, with an Introduction and Notes, by MYRA REYNOLDS. Pp. cxxx+434, cloth. *Net*, \$3.00; postpaid, \$3.25.
- Vol. V. Assyrian and Babylonian Letters Belonging to the Kouyunjik Collection of the British Museum.** By ROBERT FRANCIS HARPER. Pp. xxx+120, cloth. *Net*, \$6.00; postpaid, \$6.12.
- Vol. VI. La Perfecta Casada.** Por el Maestro F. LUY DE LEON. Texto del Siglo XVI. Reimpresión de la tercera edición, con variantes de la primera, y un prólogo. Por ELIZABETH WALLACE. Pp. xxvii+119, cloth. *Net*, \$1.50; postpaid, \$1.58.
- Vol. VII. Legal Tender: A Study in English and American Monetary History.** By SOPHONISBA P. BRECKINRIDGE. Pp. xvii+180, cloth. *Net*, \$1.50; postpaid, \$1.65. [Feb. 15.]
- Vol. VIII. The Rôle of Diffusion and Osmotic Pressure in Plants.** By BURTON E. LIVINGSTON. Pp. 144, cloth. *Net*, 150; postpaid, \$1.60. [Feb. 15.]
- Vol. IX. A History of the Greenbacks, with Special Reference to the Economic Consequences of Their Issue.** By WESLEY CLAIR MITCHELL. [In press.]
- Vol. X. The Study of Stellar Evolution: A Popular Account of Modern Methods of Astrophysical Research.** By GEORGE ELLERY HALE. [In preparation.]
- Vol. XI. Studies in Logical Theory.** Edited by JOHN DEWEY with the co-operation of members and Fellows of the Department of Philosophy. [In press.]
- Vol. XII. The Place of Apocalyptic Messianism in the New Testament.** By SHAILER MATHEWS. [In preparation.]
- Vol. XIII. Glacial Studies in Greenland.** By THOMAS C. CHAMBERLIN. [In preparation.]
- Vol. XIV. Lectures on the Calculus of Variations.** By OSKAR BOLZA. [In preparation.]
- Vol. XV. Studies in General Physiology.** By JACQUES LOEB. [In preparation.]
- Vol. XVI. The Finality of the Christian Religion.** By GEORGE BURMAN FOSTER. [In preparation.]
- Vol. XVII. Predecessors of Goethe in Italy in the Eighteenth Century.** By CAMILLO VON KLENZE. [In preparation.]

FOR SALE BY BOOKDEALERS OR THE PUBLISHERS

**The University of Chicago Press : CHICAGO**

# Library Smoking Cars

WE have them on all of our fast trains  
out of Chicago. Buffet, writing desk,  
card tables, easy chairs, all the periodicals,  
everything to make one comfortable.

We publish two books, "Colorado" and "California."  
72 pages. Informative, beautifully illustrated, and  
with good maps. They are really works of art. Price  
six cents each in postage. Send for  
them *to-day* while you  
think of it.

**Burlington  
Route**

OUR 8200 miles of rail-  
road reach out from  
Chicago, Peoria and  
St. Louis to all the important  
cities in the west and north-  
west such as

**ST. PAUL  
MINNEAPOLIS  
OMAHA  
KANSAS CITY  
DENVER**

If you are going to any of  
these places or to the Pacific  
coast, kindly let me send you  
time tables and other informa-  
tion about our train service.

P. S. EUSTIS,  
Pass. Traf. Mgr., C. B. & Q. R. R.  
CHICAGO, ILL.

87

## THE UNIVERSITY OF CHICAGO PRESS Contributions to Education

By JOHN DEWEY, Professor and Head of Department of Philosophy in the University of  
Chicago, and ELLA FLAGG YOUNG, Professor of Education in the University of Chicago.

The series as a whole aims to effect the union of educational theory and practice in distinction from vague  
enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school  
practice to the test of the fundamental principles involved. These principles are derived from modern psy-  
chology and social philosophy, and are stated in a simple and non-technical manner. The series will bring  
its readers into touch with what is vital in contemporary educational philosophy.

- |                                                                              |                                  |
|------------------------------------------------------------------------------|----------------------------------|
| No. 1. ISOLATION IN THE SCHOOL . . . . .                                     | By ELLA FLAGG YOUNG              |
| 12mo, paper, net, 30 cents . . . . .                                         | postpaid, 34 cents               |
| No. 2. PSYCHOLOGY AND SOCIAL PRACTICE . . . . .                              | By JOHN DEWEY                    |
| 12mo, paper, net, 25 cents . . . . .                                         | postpaid, 27 cents               |
| No. 3. THE EDUCATIONAL SITUATION . . . . .                                   | By JOHN DEWEY                    |
| 12mo, paper, net, 30 cents . . . . .                                         | postpaid, 33 cents               |
| No. 4. ETHICS IN THE SCHOOL . . . . .                                        | By ELLA FLAGG YOUNG              |
| 12mo, paper, net, 25 cents . . . . .                                         | postpaid, 27 cents               |
| No. 5. THE CHILD AND THE CURRICULUM . . . . .                                | postpaid, 28 cents By JOHN DEWEY |
| 12mo, paper, net, 25 cents . . . . .                                         |                                  |
| No. 6. TYPES OF MODERN EDUCATIONAL THEORY . . . . .                          | By ELLA FLAGG YOUNG              |
| 12mo, paper, net, 25 cents . . . . .                                         | postpaid, 28 cents               |
| Price for series on one order to same address, net, \$1.50; postpaid, \$1.67 |                                  |

For Sale by Dealers  
or

**The University of Chicago Press, Chicago, Illinois**

PROFESSIONAL  
*Reading Courses*

MINISTERS  
TEACHERS  
and BIBLE  
STUDENTS

*will be interested in*

*FIVE NEW COURSES*

1. The Teaching of the Apostles
2. The Wisdom Literature of the Old Testament
3. Early Church History
4. Important Books of the Year
5. Pedagogical Course for Sunday-School Teachers

*The above are added  
to the list of ten  
subjects already in  
progress in the : :*

Bible Students' Reading Guild

OF

*The American Institute of Sacred  
Literature*

Send for announcements

HYDE PARK, CHICAGO, ILL.

To the Land of  
Fruits and Flowers  
**FLORIDA**

*Through Sleepers every night,  
leaving Dearborn Station, 9:00 p.m.*

==== via =====  
**MONON ROUTE  
and C. H. & D. RY.**

Passing thro' the beautiful Cumber-  
land mountain region by daylight,  
and arriving at St. Augustine at a  
convenient hour in the morning

**CITY TICKET OFFICE  
232 CLARK STREET  
C H I C A G O**



*In Twenty Years*  
**THE  
Remington  
TYPEWRITER**

*has saved the world enough  
labor to build an Empire.*

**WYCKOFF, SEAMANS & BENEDICT**  
(Remington Typewriter Company)  
**327 Broadway New York**

**R. R. Donnelley & Sons Co.**

The Lakeside Press

**PRINTERS AND BINDERS**

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



**Correspondence  
Instruction**

credit is given so that the time of required residence for the Bachelor and Doctor's degrees is materially shortened. The work offered includes courses in **Theology, Philosophy, History, Pedagogy, Sociology, the Languages, Literature, and Mathematics.**

Circulars giving detailed information may be had by addressing

**THE CORRESPONDENCE-STUDY DEPARTMENT,**

**The University of Chicago, Chicago, Ill.**

The University of Chicago offers advantages for non-resident students through its Correspondence-Study Department which cannot be surpassed. Degrees are not granted upon work done wholly by correspondence, but when the courses are completed at the University,





**CYKO**

**A NIGHT  
PRINTING  
PAPER**

No Dark Room Required

Makes Beautiful Prints in  
black and white

**THE ONLY PAPER FOR WINTER  
... SCENES ...**

One dozen 4 x 5 Cyko with  
developer, 20 cents, of your  
dealer, or

**THE ANTHONY & SCOVILL CO.**

122-124 Fifth Ave., New York  
Atlas Block, Chicago

**\$1500 in CASH  
PRIZES**

*Or the equivalent in GOERZ manufactures  
if preferred*

**C. P. Goerz Optical Works** hereby wish  
to inform the intending competitors for the  
**International Prize Competition**,  
that at the request of a number of competi-  
tors in the English and French Colonies,  
the date of closing this contest has been  
postponed until the 30th of June, 1903.  
Competitors who, with a view to this alter-  
ation, wish to withdraw their exhibit or  
exchange the same, are hereby notified  
that their exhibits will be kept at the New  
York Office until the date of shipment to  
Berlin. Further particulars on application.

FOR PARTICULARS ADDRESS

**C. P. GOERZ OPTICAL WORKS**

Room 6

**52 East Union Square, New York**

Main Office, **BERLIN—FRIEDENAU, GERMANY**

Branches, **LONDON—3-6 Holborn Circus**

**PARIS—22 Rue de L'Entrepot**

**WABASH**

**New Short Line**

BETWEEN

**CHICAGO AND TOLEDO**

THROUGH PULLMAN SERVICE

FREE RECLINING CHAIR CARS

ON

**ALL WABASH TRAINS**

**C. S. CRANE**

G. P. & T. AGENT

St. Louis

**F. A. PALMER**

A. G. P. AGENT

CHICAGO

**ONLY ONE NIGHT  
TO FLORIDA**

In addition to its regular morning and  
evening train service for all points south,  
commencing January 5th, the "**Big  
Four Route**" will run Pullman drawing-  
room sleeper on its 1:00 P.M. train,  
daily except Sunday, Chicago to St.  
Augustine, Florida, via Indianapolis,  
Cincinnati, Atlanta, Macon and Jackson-  
ville, less than 32 hours enroute. This  
train is known as the "**Chicago and  
Florida Special**" and is strictly up to  
the 20th century mark.

Call on agents for rates and tickets via  
"**Big Four-Q & C Route**," or address

**J. C. TUCKER**

Gen'l Northern Agent

234 Clark St., Chicago, Ill.

\$3000.<sup>00</sup>/<sub>100</sub>

Rochester, N.Y. Aug. 1 1902

**Bausch & Lomb Lenses and Shutters**

SOLD ROUND THE WORLD

*Pay to The Best Photographers in the World*  
*Three Thousand Two Dollars*

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Pramo, Peco and other hand cameras with B. & L. Lenses being provided.

*Bausch & Lomb Optical Co*

ROCHESTER, N.Y.

Who will send full information on request.

WHEN THOMAS A. EDISON, Sr., invented the phonograph, the whole world applauded and wondered. Later, when he produced the electric light, the people of all the earth gave him homage as the worker of marvels. Now, as a splendid climax to the work done for humanity, Thomas A. Edison, Jr., son of the illustrious wizard, gives to the world his Magno-Electric Vitalizer, the best and most beneficent of all wonderful inventions.

Again has science labored and brought forth a marvel. This time the product is one of electricity—the Magno-Electric Vitalizer—and its inventor is none other than Thomas A. Edison, Jr., son of that great wizard who has given to the world so many wonders.

The Magno-Electric Vitalizer is now being offered to the public with absolute assurance that it will fill a long-felt want.

Electricity has transformed the world and why shouldn't it transform the world's methods of curing its sick? This is the reasoning of Thomas A. Edison, Jr., in his presentation of the Magno-Electric Vitalizer. This invention has already commanded the attention of medical men and of the laity in all parts of the world.

It is being placed on the market by Mr. Edison's own company, the Thomas A. Edison Jr. Chemical Co., No. 14, Stone St., New York. Upon application, a book containing complete information will be sent free to all who may be interested in the cure of disease by electricity.

Address correspondence Dept. P.



THE  
ALTON'S  
1903  
FENCING  
GIRL

Copyright, 1903  
by C. & A. R'y.

**ART CALENDAR**  
Four graceful poses from life; figures ten inches high, reproduced in colors. Highest example of lithographic art.

**"THE ONLY WAY"**  
to own one of these beautiful calendars is to send twenty-five cents, with name of publication in which you read this advertisement, to GEO. J. CHARLTON, General Passenger Agent, Chicago & Alton Railway, 328 Monadnock Building, CHICAGO, ILL.  
The best railway line between CHICAGO, ST. LOUIS, KANSAS CITY and PEORIA.



**THE DOCTOR**  
**AND HOUSEHOLD**  
 appreciate  
 because of its  
 Lifebuoy Soap  
 antiseptic dis-  
 infectant properties combined with its  
 thorough cleansing qualities. Its use  
 throughout the home leaves an atmos-  
 phere of cleanliness and health not ex-  
 periented from other soaps. **Try it.**

"Lifebuoy Soap is one of the most remarkable soaps I have ever used, especially in the sick room it is invaluable. Lifebuoy Soap ought to be in every home."

C. H. LELAND, M.D., 202 Merrimack St., Lowell, Mass.

"In 5 per cent. aqueous solution we find that Lifebuoy Soap destroys the microorganisms of Typhoid Fever, Cholera and Diphtheria in about five minutes."

JOSEPH MCFARLAND, M.D., Medico-Chirurgical College, Philadelphia, Pa.

"Have used Lifebuoy Soap for some time and can highly recommend it as a splendid disinfectant, which should be used in every household where health and cleanliness are desired."

MRS. W. S. CARTER, Methuen, Mass.

At dealers five cts; by mail, two  
 cakes ten cts.  
**LEVER BROTHERS LIMITED**

Send for valuable Illustrated  
 Booklet, Free.  
**NEW YORK OFFICES**

# BUFFALO LITHIA WATER

**Its Reputation does not Depend upon "Talking Points."**

**It is Offered to the Public upon its Record of Results Accomplished. Nothing save an Actual Test can be More Satisfactory to the Patient than the Testimony of Eminent Medical Men who have Repeatedly Tested its Merits in Bright's Disease, Albuminuria, Renal Calculi, Gout, Rheumatism, and all Uric Acid Troubles.**

**Cyrus Edson, A. M., M. D.,** *Health Commissioner of New York City and State, President Board of Pharmacy, New York City; Examining Physician Corporation Council, New York City, etc.,* says; "I have prescribed **BUFFALO LITHIA WATER** with great benefit in **Bright's Disease.**"

**Dr. William H. Drummond,** *Professor of Medical Jurisprudence, Bishop's University, Montreal, Canada:* "In the Acute and Chronic Nephritis (**Bright's Disease of the Kidneys**) of Gouty and Rheumatic Origin as well as in the grave Albuminuria of Pregnancy, I have found **BUFFALO LITHIA WATER** to act as a veritable antidote, and I know of no other natural agent possessing this important quality."

**T. Griswold Comstock, A. M., M. D.,** *of St. Louis, Mo.,* says: "I have often prescribed **BUFFALO LITHIA WATER** in Gouty and Rheumatic conditions and in Renal Calculi, accompanied with Renal Colic, and always with the most satisfactory results. In Renal Calculi, where there is an excess of Uric Acid, it is especially efficacious."

**Dr. Jos. Holt,** *of New Orleans, Ex-President of the State Board of Health of Louisiana,* says: "I have prescribed **BUFFALO LITHIA WATER** in affections of the kidneys and urinary passages, particularly in Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra. The results satisfy me of its extraordinary value in a large class of cases usually most difficult to treat."

Voluminous medical testimony of the highest order, which admits of no question or imputation, mailed to any address.

**BUFFALO LITHIA WATER** is for sale by druggists and grocers generally.

**PROPRIETOR BUFFALO LITHIA SPRINGS, VIRGINIA.**

Finest in the World  
**BAKER'S  
COCOA**



—  
LOOK  
AT  
THE  
LABEL  
—  
TAKE  
NO  
OTHER  
—

CHOICE RECIPES, 32 PAGES, SENT FREE  
**WALTER BAKER & CO. Ltd.**

ESTABLISHED 1762. DORCHESTER, MASS.  
40 Highest Awards in Europe and America

THE  
**WEBER**  
TONE  
IS THE  
IDEAL  
**PIANO**  
TONE

THE WEBER PIANO COMPANY

108 Fifth Ave., New York

256 Wabash Ave., Chicago

CATALOGUE MAILED FREE ON REQUEST



AN OBJECT LESSON IN COMMON SENSE.

TEACHER—"The first step away from self-respect is lack of care in personal cleanliness; the first move in building up a proper pride in man, woman, or child, is a visit to the Bathtub. You can't be healthy, or pretty, or even good, unless you are clean. HAND SAPOLIO is a true missionary."

**Vose** PIANOS

have been established over 30 YEARS. By our system of payments every family in moderate circumstances can own a VOSE piano. We take old instruments in exchange and deliver the new piano to your home free of expense.

Write for Catalogue D and explanations.

VOLUME III



# The Elementary School Teacher



MARCH, 1903

Chicago: The University of Chicago Press

Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1903, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second-class matter, October 29, 1902.

A WIRELESS MESSAGE ACROSS *the* ATLANTIC

Good morning! Have you used Pears' soap?



SENT 20 YEARS AGO

The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

CONTENTS FOR MARCH, 1903

| | | |
|---|-----------------------|-----|
| BOTANY IN ELEMENTARY SCHOOLS | JOHN M. COULTER | 409 |
| SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS | KATHARINE E. DOPP | 416 |
| HOW AND WHY WE LEARN. III | C. B. GILBERT | 425 |
| THE RELATION OF THE KINDERGARTEN TO THE PRIMARY SCHOOL | EMMA A. NEWMAN | 434 |
| KINDERGARTEN PLAN FOR THE SPRING QUARTER | ANNE ELIZABETH ALLEN | 444 |
| GRADE OUTLINES: | | |
| FIRST GRADE | BERTHA PAYNE | 446 |
| THIRD GRADE | GUDRUN THORNE-THOMSEN | 448 |
| FOURTH GRADE | ROSE PHILLIPS | 451 |
| FIFTH GRADE | GERTRUDE VAN HOESSEN | 453 |
| SIXTH GRADE | MARY REED | 454 |
| SEVENTH GRADE | ELSIE AMY WYGANT | 456 |
| EIGHTH GRADE | KATHARINE M. STILWELL | 462 |
| BOOK REVIEWS: | | |
| <i>Lewis</i> : A Text-Book of Applied English Grammar, ALBERT H. TOLMAN | | 467 |
| EDITORIAL | | 469 |
| BOOKS RECEIVED | | 472 |

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

**THE UNIVERSITY OF CHICAGO PRESS,
CHICAGO, ILLINOIS**

ENTERED AT THE POST-OFFICE AT CHICAGO, ILLINOIS, AS SECOND-CLASS MATTER, OCTOBER 30, 1902
COPYRIGHTED, 1903, BY THE UNIVERSITY OF CHICAGO

NOTABLE NEW BOOKS

THE MORSE READERS

Practical Graded Text, Five Books

By THOS. M. BALLEET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Universally endorsed as the best Grade-Readers.

MORSE'S EDUCATIONAL SYSTEM and the NATURAL-MOVEMENT METHOD COPY BOOKS

(Medial.) Many original features but thoroughly practical. 20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material. Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

THE MORSE COMPANY

8 Beacon St., BOSTON

96 Fifth Ave., NEW YORK

224 Wabash Ave., CHICAGO

For Use in Secondary Schools

History

| | |
|---|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England | 1.25 |
| Botsford—History of Greece | 1.10 |
| Botsford—History of Rome | 1.10 |
| Adams—Medieval and Modern History | 1.10 |
| Adams—Growth of French Nation | 1.25 |
| Adams—European History | 1.40 |

Science

| | |
|---------------------------------------|------|
| Bailey—Elementary Botany | 1.10 |
| Davenport—Introduction to Zoölogy | 1.10 |
| Crew—Elements of Physics | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography | 1.40 |
| Tarr—Elementary Geology | 1.40 |

Mathematics

| | |
|---|------|
| Fisher & Schwatt—Secondary Algebra | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond | .90 |
| Holgate—Elementary Geometry | 1.10 |

English

| | |
|---|------|
| Carpenter—Rhetoric, First High-School Course | .60 |
| Carpenter—Rhetoric, Second High-School Course | .50 |
| Lewis—Introduction to the Study of Literature | 1.00 |
| Carpenter—Principles of English Grammar | .75 |
| Pocket English and American Classics (34 volumes ready), each | .25 |

The Macmillan Company

378-388 WABASH AVE., CHICAGO

New York Boston Atlanta San Francisco

The Prospects of the Small College...

By
WILLIAM R.
HARPER

RECAST from an address delivered before the National Educational Association, at Charleston, South Carolina, July 10, 1900. The substance of the book was also given as a course of lectures at the University of Chicago

128MO, PAPER, 25C. (POSTPAID), SENT ON RECEIPT OF PRICE BY THE PUBLISHERS

The University of Chicago Press CHICAGO, ILLINOIS

(A complete Catalogue of Publications sent on Request.)

The University of Chicago Press

Special printing facilities for academic work, including theses and reports of educational bodies and learned societies.

Educational and scientific works printed in English, German, French, Latin, Greek, Hebrew, and other languages.

Estimates furnished

The University of Chicago Press
88TH ST. AND ELLIS AVE., CHICAGO

Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers The University of Chicago Press, Chicago, Illinois

A WORD ABOUT READERS

A BIRD'S-EYE VIEW of the material in the "Lights to Literature Readers by Grades" reveals several things

First:—That the selections are from the best English and American Literature.

Second:—That many of these selections are modern and new to school readers, which gives them a freshness that commands the interest of both teachers and pupils.

Third:—That the readers are carefully graded and that the literary development of the child is carefully followed.

Fourth:—That Book Seven and Book Eight are made up of complete British and American masterpieces carefully edited, with portraits and biographical sketches. The *Lights to Literature Readers* are the only readers which contain these features. They not only light the way to literature, they lead the child to an appreciation of literary wholes and into the very field of our best English writing.

This bird's-eye view cannot show that every selection appears in the exact words of the authors. There is no adapting or working over of masterpieces. These are the only readers that do not adapt and dilute standard literary selections.

If you wish a nearer view of the *Lights to Literature Readers*, kindly allow us to give you an opportunity to examine them.

WHAT ONE EDUCATOR THINKS

"We have now been using *Lights to Literature Readers* for several months. . . . I had examined the current series of readers by various publishers before these were adopted. A careful observation of the reading we secure from the *Lights to Literature Readers* confirms the impression I had formed when they were adopted, namely, that they are the brightest, freshest, and most inspiring series of readers yet published. The reading-material in these books is thoroughly sane. It is the most liberal and broad in variety yet offered." (Signed) HENRY S. TIMBBS,

Principal John Spry School, Chicago, Illinois.

RAND, McNALLY & COMPANY, Educational Publishers
Chicago . New York . London

Hundreds of Teachers Have Annually Been Benefited

The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager

378-388 Wabash Avenue - CHICAGO

SEND FOR "OUR PLATFORM"

The James F. McCullough Teachers' Agency

Fine Arts Building, Chicago

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—**Try McCullough.**

Completely Parsed Caesar Gallic War, Book I.

BY REV. JAMES B. FINCH, M. A., D. D.

CLOTH—\$1.50 POSTPAID—400 PAGES.

The Latin words in the Latin order just as Caesar wrote them; with the exact *literal English* equivalent of each Latin word directly under it (*interlined*); and with a *second, elegant translation in the margin*; also with *Footnotes* in which *every word* is *completely parsed*, and all constructions explained, with *References* to the leading Latin grammars. Each page complete—Latin text, *interlinear* literal translation, *marginal* flowing translation, parsing—all at a glance *without turning a leaf!*

Completely Scanned and Parsed Aeneid, I. Ready August, 1900.

HINDS & NOBLE, Publishers,
31-33-35 West 15th Street, N. Y. City
Schoolbooks of all publishers at one store.

HARVARD UNIVERSITY

The Summer School of Arts and Sciences

offers 83 courses of instruction in Sanskrit, Greek, Latin, English, German, French, Spanish, Russian, Public Speaking, Economics, Psychology, Education, Theory of Design, Drawing, Music, Mathematics, Surveying, Shopwork, Physics, Chemistry, Botany, Geology, Geography, and Physical Education. The courses are designed for teachers, but are open to all qualified men and women.

July 6 to August 14, 1903

Reduced railway rates on account of the meeting of the National Educational Association in Boston. The announcement and detailed information will be sent on application to J. L. Love, 16 University Hall, Cambridge, Mass.

N. S. SHALER, Chairman



Greatest Record

in the History of this Giant Company

| | | | |
|--|---|------------|----------|
| LIFE INSURANCE ISSUED AND PAID FOR | } | 272 | Millions |
| during 1902, including Ordinary Insurance (\$87,000,000), over | | | |
| ASSETS, end of 1902, over | | 60 | Millions |
| INCOME, during 1902, over | | 33 | Millions |
| PAID POLICY-HOLDERS, during 1902, over | | 9 | Millions |
| SURPLUS, over | | 9 | Millions |
| POLICIES IN FORCE, nearly | | 5 | Millions |
| INCREASE IN PAID-FOR INSURANCE in Force, over | | 108 | Millions |

MAKING THE GRAND TOTAL OF

Paid-for Insurance in Force over 800 Millions

Paid Policy-holders in 27 Years, nearly 68 Millions

Features of the Year's Administration were

Marked Reduction in Expense Rate. Increased Dividends to Policy-Holders.

The Progressive Management and the Judicious Care of, and Liberality in Dealing with,
Policy-holders' Interests, have made this

ONE OF THE GREAT LIFE INSURANCE COMPANIES OF THE WORLD

Write for Information of Policies or Agencies, Dept. 28

THE PRUDENTIAL

Home Office.
Newark, N. J.

INSURANCE CO. OF AMERICA.

JOHN F. DRYDEN,
President.

THE ELEMENTARY SCHOOL TEACHER

MARCH, 1903

BOTANY IN ELEMENTARY SCHOOLS.

THE use of plants in elementary instruction has become so well established as to need no defense. The problem is not whether plants shall be studied, but what is the most effective method of using them. There are certain general principles that seem to be clear, and may be stated; but their application demands a certain amount of experience on the part of the teacher and great amount of detail. The principles that should control any handling of plants in elementary instruction may be stated as follows:

1. There should be no organization of a science of botany, with a logical beginning and development. Such presentation of a science belongs to more advanced instruction. This means that no logical order is to be followed, so far as the subject of botany is concerned, but that selection is to be made from the wealth of material present in every region. It is not continuity of subject, but continuity of stimulus to the child, that is needed at this stage of development. Whatever is available and whatever meets the requirements of the instruction is to be selected, whether it fits into any definite scheme or not.
2. A wise selection from the vast amount of material is best made by the experienced teacher; but a general principle of selection should be that the material must be related to the experience of the pupils. For example, in the case of inland schools a choice between the use of a seaweed and of a tree growing in the immediate vicinity should not be hard to make.
3. The purpose in using this material should be to keep functional the tentacles of inquiry which are a possession of the

normal child. This proposition is in view of the fact that the conventional education has largely resulted in rendering these tentacles functionless, and in later years the pupil comes to science study, not merely with a loss of power, but with a loss of desire for scientific work. It is a notorious fact that the college students who are attracted by work in science represent a small percentage of those who are receiving education, and yet almost every child has been born with scientific inclinations. The great amount of work that must be done in elementary education probably precludes the cultivation of the scientific impulse during elementary training; but the thing I have in mind is at least to keep this impulse alive, so that it may be ready to lay hold of scientific material when the opportunity comes.

4. In the use of this material two things should be kept in mind: (*a*) there should be no dead work, that is, work which when done has no significance; (*b*) emphasis should be laid constantly upon function rather than upon structure. For example, in studying leaves the prominent idea is to discover, not the multitudinous forms and vein-systems of leaves, but what leaves are doing for a plant. The conception must be developed that plants are alive and at work, rather than dead things which have parts that must be named. It is easy to assign numerous topics that treat of plants from the standpoint of function, but it is the interest of the pupils that must determine the topics that are most serviceable. The exercises must hold the interested attention of the pupil, or the very purpose of the work will be defeated. I have seen a vast amount of what has been styled dead work in connection with the use of plants in elementary training. For example, the endless treating of leaves of different forms and the working out of venation of different types represent work that has no special significance when it is done. Many of the exercises seem to be devised by the teacher to employ the time assigned to carry out a requirement without any special knowledge of its significance. The statement that the interest of the pupil must be used as a test of the success of the work should be taken with due allowance.

There are some pupils who may never be interested in work of this sort, but the teacher recognizes whether general interest has been secured. There is often danger of pressing a particular problem too far, and interest is evaporated by monotonous repetition. It is the first contact that interests the young, and a judicious passing from one subject to another will keep interest from passing into disgust.

5. In my judgment the instruction in every case should be oral, and there are two prominent reasons for this proposition. In the first place, it is one of the few opportunities which come in school experience to break the bondage of the book. There is an overwhelming chance that pupils will confuse subjects with books and have no conception that the subject is something quite apart from the book that may treat of it. Besides, the fallibility of books cannot be too early emphasized. Over and over again has it been my experience that pupils who have come to the university from schools regard the statements of a book as ultimate authority rather than the testimony of their own senses. There is no better subject for teaching the real place of a book than nature-study. A second reason why instruction should be oral is that only in this way can there be the most perfect adaptation of instruction and material to pupils. Unless a book is written for a definite locality, it can never be a real guide to the best use of plant material in elementary instruction. When a teacher uses a book, the tendency is almost inevitable to follow it in its details as well as in its general suggestions. This makes the material and the order of its presentation perplexing.

6. It cannot be too strongly urged upon teachers that many of the books written to help in nature-study contain what are called "fairy-tales" by scientific men. These fairy-tales take the form either of fanciful personifications or of flights of fancy that are always wild and misleading. For example, an excellent recent book contains the following statement; "If the sky is overcast, the tree is drowsy; if rain sets in, it goes right off to sleep." To a child the meaning is entirely clear, but at the same time is entirely false. Such touches are intended to attract and

hold attention, but when the result is a misconception the attempt cannot be too strongly condemned. The claim is made that the facts of science are interesting enough to hold attention even when studied sanely. One of the peculiar advantages of the study, as contrasted with most of the other subjects handled, is that it is one subject that may be used to keep one's feet on the ground. If the plain facts of science are to be the occasion for flights of fancy, there is nothing left to enable the pupil later to distinguish between what is sane and what is wild. I fancy a large amount of what we call the gullibility of men and women who have passed through the schools arises from the fact that they have never been compelled to distinguish absolutely between fact and fancy. Nature-study in elementary instruction is exactly adapted to do this service, and hence should not be compelled to aid in the further development of an unanchored imagination.

7. It would seem wise, in order to prevent a somewhat chaotic and repetitious presentation of material, to arrange for five or six prominent problems each year, the problems differing each year, increasing in difficulty of interpretation, and together building up a real body of fundamental knowledge. In addition to these prominent problems, minor observations indefinite in number and character should be sifted in. Each problem should be of a character to involve at least four things: (*a*) individual observation or experiment; (*b*) written or sketched description; (*c*) independent conclusions; (*d*) oral instruction, with perhaps assigned readings. The individual work is necessary, not only to secure the definite contact of the subject with the mind of each pupil, but also to develop personal responsibility. It is well also to develop unprejudiced observation by giving no special information as to what will be seen. The majority of pupils are so docile that they see what they are told to see, and there is no independent observation. I have seen many cases in which younger pupils are better observers than the older ones, and I know no other reason than that the latter have been trained to become more and more dependent.

One of the most fundamentally important things is to bring

together the individual results and compare them. Probably the most common error to be observed among intelligent people is generalization from a single observation. If the whole work of a class be brought together and compared, differences will be developed. These differences in observation must be settled by repeating the observation or experiment. There will thus be developed the knowledge of what is common to all the results and therefore essential. And there will also be developed a certain amount of variation. In this way a habit of caution is developed, and some idea as to what adequate proof involves. It should also be remarked that only very definite work should be assigned to young pupils; work that has already been traversed by the teacher, and whose results are assured. It is not only confusing and discouraging, but it is even disastrous, to work at random. Every observation or experiment should involve a very definite result plainly in sight.

The proper results of such training may be stated as follows: (1) a sustained interest in natural objects and phenomena of nature; (2) an independence in observation and conclusion; (3) some conception as to what an exact statement is; (4) some conception as to what constitutes proof. In short, the result should be an independent, rational individual, the kind that society needs more than anything else.

It may be well to give a concrete illustration of the kind of material that would seem to meet the conditions described. Perhaps no plant form thrusts itself more conspicuously upon the attention of pupils than trees, and acquaintance with the prominent trees of a neighborhood would seem to be one of the duties that the teacher owes to pupils in work of this kind. The first thing to be done is to select some typical forms, not taking up trees as they happen to come, but selecting here and there those known to be really representative of the different kinds. Perhaps one of the first things to do is to sketch the general plan of the tree before it is in foliage, a plan that cannot be obtained so easily when obscured by leaves. Simply to ask that a sketch be made would not be sufficient, for some pupils will go into that endless detail that only wastes time, and others are likely to go

to the other extreme. The general plan must include certain definite things, such as the relative extent of the main axis, the location and direction of the main limbs, no attention being paid to the indefinitely multiplied spray. It ought not to be a conventional tree, simply a straight axis with branches, but as nearly an exact pattern of the tree-plan as can be put down upon paper. It will be a matter of surprise to most pupils to draw a conventional tree and then compare it later with the actual tree when completed. It is good to accompany this study of trees without foliage by some practice in recognizing common trees from general habit. Unless a tree has been warped or distorted, it is surprising how quickly pupils recognize the general pattern.

In this same connection study might be made of the bark, noting its thickness, the way in which its surface breaks up, and the method of shedding. The recognition of trees by the bark is also a useful exercise.

Then comes the study of the tree putting out its foliage, and the following questions are at once suggested: Which trees show leaves first? Which get into full foliage first? Which is the slowest in getting into foliage? How long after the leaves first appear is the tree in full leaf? All of these questions involve the element of time in connection with the operations of nature, an observation which very few people make. I presume it would be exceedingly difficult even for adults who have lived among trees all their lives to answer these questions. After the trees are in full foliage a study of the leaves of different types of trees may be made, so that trees can be recognized by their leaves as they have been already by their habit and their bark.

This work will result in a mass of observations, which later should be put together and the common trees of the neighborhood described as to their habit, their bark, their leaves, and whatever other characters have been developed in the course of the study. Too many trees should not be introduced early. One form should define itself clearly before another is added.

This is but an illustration of a very elementary handling of the subject of trees, which could pass later on to the study of

the fiber of wood, the length of a year's growth, the rings of growth, etc.

A random list of topics that are important and at the same time within easy reach of observation by very young pupils is as follows: autumn coloration, the fall of leaves, the ascent of sap, underground habits, soils, shedding rain, transportation of seeds in dirt, the effects of drought, the relation of light to the green color and the growth of parts, the positions of leaves in reference to light.

JOHN M. COULTER.

DEPARTMENT OF BOTANY,
The University of Chicago.

SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS.

III.

As LONG as man was unaided by artificial devices, he was greatly limited in the use of the food materials which were at hand and which later came under his control. Impelled by hunger, he naturally availed himself of those materials which most quickly attracted his attention and which yielded him sufficient nourishment with the least expenditure of labor.

In the choice of foods man was guided by his instincts, by his senses, and by his experiences. Man's sense of taste at that time was a far safer guide than it is at present, since it had not become habituated to the use of artificial flavors. Taste was one of nature's methods of indicating whether a food was beneficial or injurious to the organism. But it was not due so much to taste as to the use of associative memory that man was able to inaugurate a campaign upon his natural environment which has been carried on from that day to this. Associative memory enabled him to take account, not merely of his own personal experiences, but of those of his neighbors. It enabled him, likewise, to take the suggestions afforded by the natural world.

Man's instincts and experiences united in causing him to leave all but the lower forms of animal life undisturbed. He was unable to cope with the larger animals. The fear which they aroused in him was due to an organic strain called forth by an instinctive response to a dangerous situation. For a long time man avoided conflict with the wild beasts and helped himself to their products and stores in an unobtrusive way.

Previous to the conquest of fire, it was the vegetable world, rather than the animal, that supplied man with the larger part of his food supplies. Only gradually was he able to increase the sources of his subsistence beyond the most conspicuous plants, which, fortunately, were also the most useful ones. Succulent

stems and leaves, fruits, berries, buds, blossoms, thin-shelled nuts, and even the tender bark of trees—all these were made use of by man in his most feeble state. Shoots of the wild asparagus, stalks of celery, tender twigs of oak trees, leaves of the cabbage, the watercress, and lettuce were easily appropriated and furnished man with valuable nutrients. Wild peas and beans were gathered from the hillsides where they grew, and were eaten in the green pod just as children in country districts eat green peas today. Spots that furnished wild berries, apples, pears, and plums were resorted to at the proper season, though they were often eaten when green, or even in the bud. The custom of eating green fruit was not due to scarcity alone. It was a habit formed to meet the demand of the organism for potassium salts, which are more abundant in green fruits than in ripe ones. All these natural foods were eaten on the spot where they were found, except when a sign of danger prompted man to bear such as he could seize quickly and carry to a safe place of retreat. Since the hands were not yet free from the function of locomotion, it was necessary for man to make use of his teeth, his toes, or his arm pressed against his side in carrying objects. A sufficient motive to call forth the invention of the basket or of a device for attaching the burden to the body was not present until after the conquest of fire.

But man cannot live on vegetable foods alone. Such foods do not contain a sufficient amount of salt (*sodium chloride*) to satisfy the demands of his organism. Until man learned to find salt in its pure state he was obliged to satisfy his instinctive craving for it by seeking for foods in which it is found. Animal foods, pre-eminently, are those that are rich in salt. Accordingly, from the earliest times man availed himself of such animal foods as he was able to appropriate. For a long time these consisted chiefly of such forms as the larvæ of beetles, the pupæ of ants, butterflies, caterpillars, spiders, snakes, lizards, young birds, squirrels, rabbits, turtles, frogs, and, in short, of any form which he was able to overpower.

Man not only availed himself of the flesh of animals, but he helped himself to their products and stores of food. The eggs

of birds, the honey of bees, nuts stored away by the squirrel and woodpecker, the bone buried by the wolf—all contributed from time to time toward satisfying the pangs of hunger. For many reasons honey was a very acceptable food at this time. Its flavor offered an agreeable contrast to the prevailing bitter taste of a majority of the wild plant-foods. The active life that characterized the period made a demand for a large amount of heat and muscular energy, which, owing to the scarcity of available fats, was supplied in part by the use of honey. The ease with which it was digested operated with other causes in making it much sought after by the river-drift man. Of manufactured sugars there were none at this time. Aside from honey man found natural sweets first, when he was an infant, in his mother's milk. Later he found them in the fully ripened fruits and berries, in the stems and roots of grasses, in the beet, the turnip, the rutabaga, and the carrot. The absence of the sugar maple and the sugar cane from Western Europe during the mid-Pleistocene period did not permit man to utilize their sap in supplying his craving for sweets. Plants rich in starch, to be sure, supplied man with sugar, but the burden of manufacturing the starch into sugar was placed upon the digestive system.

The seeds as well as the fleshy portions of the pumpkin, the squash, vegetable marrow, the muskmelon, the watermelon, the cucumber, and other varieties of gourds were undoubtedly eaten, their hard shells furnishing the first drinking-vessels of man. Water was the chief beverage of the river-drift man, though it was probably supplemented by the warm blood of such animals as he was able to capture. Fresh water was found in springs, in lakes, in running brooks and rivers. Man drank at first by direct contact of the lips with the natural supply or by using the hollow of his hand for a dipper. But gradually the shells of gourds, horns, or other natural forms were used as drinking-cups. Since man at this time had no means of carrying water, he never went far from a natural source of supply. In his wanderings he was no doubt guided by the presence of animals that habitually resort to a natural drinking-place each day.

It is probable that man as well as the animals instinctively

sought plants possessing medicinal or stimulating properties, and that, as he found in them the means of increasing his strength and courage, he resorted at frequent intervals to the spots where they grew. The mild stimulus thus received undoubtedly was of value as a means of accelerating human progress.

Probably man first learned to enlarge the sources of his subsistence through the observation of the habits of the grass-eating animals. The succulent bulbs and roots firmly imbedded in the soil were less conspicuous and more difficult to procure than berries, fruits, and succulent stems and leaves. But they constituted an important element in the food of the wild hogs, and by observing these creatures as they rooted up and devoured the turnip, the rutabaga, and the wild carrot, man was stimulated to take the suggestion they offered. At first, no doubt, he pulled these roots up by their tops or dug them up with his fingers. But the difficulty encountered in procuring the larger roots unaided by artificial devices of any kind was sufficient to stimulate man to devise an easier way, and the digging-stick thus appeared. For a long time it consisted of the most available natural form that could be found upon the spot, for the *use of natural forms* always precedes the *manufacture* of tools or implements of any kind. A branch with a sharp point, a long bone, a horn, or any other natural object that could supplement the use of the hands and enable man to apply his energy more advantageously than before, constituted the digging-stick—the most primitive form of a large class of implements which are now used in cultivating the soil. Although the wild parsnip was present, it was not suited to human consumption, for in the wild state it contains a poisonous principle, which the river-drift man had not learned to remove. All the wild roots were more pungent and disagreeable to the taste than the cultivated forms with which we are familiar; but man was so occupied with the problem of procuring a sufficient amount of nourishment that he had no time to devote to ways of rendering foods more palatable.

Among the several varieties of edible fungi, the mushroom was the most easily obtained. Not until the habits of the wild hogs were observed did man discover where the truffles grew;

for there was nothing upon the ground to indicate their presence. But by watching the wild hogs as they rooted under the oak trees, man learned where to look for them; and, remembering this fact, he was able to procure them when the wild hogs left the spot.

The acorns, which furnished a valuable food for the wild hogs, were too bitter and too difficult to digest to recommend themselves for human food, except in cases of extreme necessity. Later, when man learned to remove the bitter flavor and to grind them into a flour that was more easily digested, they formed an important food material; but the bitter varieties native to western Europe were not well adapted to the use of the river-drift man. It was different, however, in the case of the hazelnuts, beechnuts, and walnuts. Though their kernels were imprisoned in hard shells, man early learned to crack them with his teeth. The difficulty presented in the case of the large nuts with thick shells stimulated man to devise artificial ways of cracking them. The use of the smooth stone as a hammer undoubtedly arose in the first instance from the need of cracking hard nuts. The use of the hammer-stone not merely served to extend the number of foods upon which man might draw, but it lightened the burden placed upon the teeth in cracking hard shells, and, in so far as it was used in crushing the harder varieties of food, it lightened the mechanical part of digestion. It is not probable, however, that any but the faintest beginnings were made in the process of crushing food during this period.

No mechanical invention of the period was more significant with reference to the enlargement of the sources of subsistence than that of the stone hunting-knife. Very likely natural forms of wood, bone, or horn had been used as knives before; but the pebble, chipped at one end so as to have a sharp point, is a distinct advance in man's method of life. It represents a greater control of environment than had appeared before. It bears witness to the fact that man was no longer content with the mere use of natural forms, and that he began in that early age the work of modifying such forms to suit his purposes. Whether the hunting-knife was suggested by the use of natural forms, by the breaking

of the hammer-stone, or by some other process, is not recorded. Very likely all these processes contributed to its invention. By its use man greatly increased his power in procuring nourishing food of various kinds. Armed with this crude weapon, man was better able to hunt the small animals than he had been before. He could use it in removing the skins of animals and in hacking off strips of raw flesh, as well as in reducing to more convenient form many of the larger plant foods which he used. The crude hunting-knife, the hammer-stone, and the digging-stick constitute the important mechanical inventions of this period. They served to enlarge the sources of subsistence, to lighten the burden placed upon the body in procuring foods, and they offered a suggestion, at least, of ways of lightening the work of digestion.

But the invention most significant for this period, if not for all time, was the conquest of fire. By offering man protection from the wild beasts, it allowed him to save energy which previously had been expended in escaping from wild beasts. The energy thus saved would have enabled man to live as well as he had before with much less effort. But the opportunity to advance was made use of, and the surplus energy was expended in ways fundamental with reference to future times.

The common life that developed with the use of fire involved a co-operation and a division of labor impossible before. All felt the need of preserving the fire; and since no one had yet learned how to make it, the women who had young children stayed near and kept it burning, searching for such wild foods as they could find near by, while the men, and the women not burdened with young children, exploited more distant regions. For a long time people followed their old habits, each searching for his own food; but the common life around the fireside at night, where the personal adventures of the day were recounted or acted out by means of gesture and pantomime, suggested other modes of co-operation. The hunting-dance, which was developed during leisure hours, was an expression of the store of surplus energy made possible by the advantages resulting from the use of fire. That this energy should be discharged along lines marked out by the prac-

tical activities of everyday life was inevitable. That its expression should be modified so as to lend itself to the accomplishment of purposes hitherto beyond the possibility of achievement was one of the many instances that reveal the method by which the race has advanced from the humblest beginnings to its present state.

It may have been the use of the firebrand as a means of protection in the search for food that suggested its use in hunting the small animals that burrow in the ground. At any rate, man early learned to chase these small creatures to their burrows and to smoke them out by the use of fire, whereupon he quickly dispatched them by means of a club. The fact that an animal sometimes escaped served to make man more conscious of the need of assistance; and, gradually, two or more persons united in hunting small animals in this way. But it was the larger animals that aroused the strongest motive for co-operative action. They were a constant source of terror. Little was accomplished during this period, however, in the warfare waged upon them; and since this warfare constitutes a characteristic feature of the next two epochs, this phase of the subject will be treated in connection with the occupations of those periods.

The use of fire as a means of cooking was probably not noticed during the period of the river-drift man. It is probable, however, that foods were cooked accidentally at this time; but man's attention, being so fully occupied with problems more vital to the age, was not attracted so as to perceive the significance of such accidental phenomena.

The processes of production and consumption during this period were not separated by an interval of time. The activities involved consisted of a great variety of human movements. The motive power in all cases was furnished by the human body whose physical co-ordinations set the pattern for the mechanical inventions of all times. The phase of the process that may be termed "production" consisted of the exploitation of environment in search of those plants and animals upon which man could lay tribute. The manufacturing art consisted, first, in the direct use of the organs of the body in reducing food materials to a form

suited to the action of the digestive tracts, which at this time performed many of the mechanical and chemical processes now relegated to machinery and the action of heat, as well as the labor involved in disposing of a large amount of refuse matter; second, in the selection and use of natural forms by means of which to supplement the efficiency of the organs of the body; third, in a slight modification of natural forms for the sake of still further increasing their efficiency; and, fourth, in the conquest and use of fire, by means of which man greatly increased his power to secure nourishing food, and which he later learned to apply to other processes as well. The beginnings of distribution were involved in the habit of resorting to the spots where desirable food materials were found, for it was not until a much later date that foods were carried to a place removed from the spot where they were procured. Although man made no conscious effort to preserve foods at this time, he made use of the foods preserved and stored by nature's processes. The processes of consumption were largely automatic. There was no dressing of materials, no cooking, no serving, no companionship in sharing food. The digestive system was so taxed by the burden since handed over to the manufacturing processes that it was unable to derive all the nutrients from the foods consumed. In so far as there was a conscious rejection of the most conspicuous refuse, there was a beginning made in sifting and cleaning food. In so far as there was a conscious selection of ripe fruits and vegetables in preference to green and half-grown products, there was an instinctive recognition of the value of the natural cooking which was effected by the sun's rays.

The mechanical appliances of the period were implicit in man himself and were used chiefly in an automatic way. Only as they were perceived to be inadequate did they become the subject of conscious attention. Then man sought in various ways to supplement his weakness and to apply his power in the most advantageous way. The digging-stick, the hammer, and the hunting-knife thus appeared as means of reinforcing the work of the nails and the teeth. These tools were used for a variety of

purposes, for the special interests which called forth specialized tools were a product of a much more advanced stage of culture.

The period as a whole is characterized, not by *making*, but by *finding* and *using* what is at hand. Many of the processes which have since become conscious and been relegated to complicated machinery, during this period, were performed within man's body in an unconscious way. From one point of view the evolution of social occupations is an account of the way in which the processes which formerly took place within the body in an unconscious way have been handed over to machinery.

KATHARINE E. DOPP.

THE UNIVERSITY OF CHICAGO.

HOW AND WHY WE LEARN.

III

THIS discussion of the different views of the process of learning is not a discussion of different ways of learning. There is but one, which I have called "nutrition," believing that the figure involved in the use of this term most nearly describes the act; that when anything is learned, it has become a part of the mind in a sense quite similar to that in which food digested and assimilated has become a part of the body. While the figure is not exact, it is nearly so, for not only does the act of learning produce a modified and enlarged mind, but the thing known is modified. In so far as we can see, no fact, even the simplest, is exactly the same as known by two minds.

Different terms are used in different educational philosophies to represent practically this idea. Such a term is "apperception," brought into use from the philosophy of Herbart, which indicates the vital relation between the knowing mind and the thing known, or rather between the things known before and the new truth as it is learned. This does not go as far as the theory of nutriment, for it seems to recognize too marked a distinction between the knowing mind and the things known, as if that which had been previously learned were lying in the mind and to it new facts attached themselves when learned. It does not sufficiently recognize the modification of the mind itself through growth.

The term "assimilation," commonly applied in the older educational philosophies in part to the act of learning, is better and goes farther than the term "apperception" of the Herbartian philosophy. Indeed, the term itself implies an act preceding, but almost identical with, nutrition. Along with it, however, in these older philosophies, are used other terms implying that facts may be learned without assimilation, though not so well learned; making assimilation merely a higher degree of learning.

My contention is that there is no learning at all except that which may be figuratively described as "assimilation" and "nutrition;" that, unless a truth becomes thus a constituent of the mind, it is not learned at all. So my argument is not for a particular kind of learning, known as nutrition, contrasted with other kinds of learning based upon the physical as distinguished from the biological analogy. It is rather that, there being but one kind of learning, all work in school should be directed to securing that; that all effort directed to anything else is wasted or worse; and, as I stated in a previous article, that many of our schools have endeavored to treat knowledge as the possession of some specific, tangible thing by the mind, useful, indeed, but not essential to the mind.

So we have had the "common intelligence school" and the "formal discipline school," both resulting in enormous waste from misdirected energy, though both have resulted in much good in spite of the theories of the schoolmasters, because the mind has assimilated some of the facts presented and has received nutriment from them.

Education through the receiving of nutrition is a law of life, and all life is a great educational process, continuous and unending. Thus education results from reaction against environment. By environment I mean, not merely that which surrounds us, but that which we feel as an influence and against which there is a psychic reaction. Our environment, or the portion of the surrounding world which we thus feel, nourishes, enriches, and strengthens the mind, and only that against which there is a psychic reaction affects us at all.

School life should be an epitome of life, more fruitful and tending more rapidly to growth than the ordinary life, because it is directed, and the things which affect the mind are carefully selected and differentiated from other things so as to reduce the waste to the minimum. Too often the school life has not been so fruitful as the larger life. It has furnished less of proper environment, the direction has been wrong, and it has been filled with forces and material which the minds of the children could not receive or be affected by directly, so that a

vast amount of the energy of the teacher has been thrown away because what he presented has not been nourishing to the minds of children. In the true school, that is presented to the children for learning which may be learned; that is, which may enter into the mind as a constituent and may nourish it.

In the old courses, represented in the two classes of schools already spoken of, the chief consideration was the subject-matter to be taught. Certain facts which were supposed to be useful were selected and logically developed with slight regard to the conditions and needs of the young minds set to learn them.

The first consideration of the good school, or what might be called the "nutrition" school, is not subject-matter, but the mind itself, and not mind in the abstract or in general, but minds, as found in the individual children. For, as no two minds are alike, so can no two minds be profitably given exactly the same treatment for educative purposes. The subject-matter to be taught is important, but of secondary consideration; it must be selected because of its fitness for the child rather than because it may be logically developed or is useful in life.

The mind and the subject-matter must be studied together to find their relations, and for each child the result will be somewhat different from that in any other child; and, as the minds to be nourished by learning are young and immature, and as young, immature minds grow very unevenly, the differences will be greater than among mature minds, and the very greatest care is necessary in the selection of material in order that there may be as little waste as possible.

This theory reduces the possible generalizations upon education and compels us to take account of the individual children. Indeed, it substitutes children for "the child." This is a hard doctrine. It disturbs the equanimity of the calm philosopher who sits in his study, reads the philosophy of history, and *ex cathedra* puts forth a general curriculum for schools based upon his philosophical knowledge of the world.

It also disturbs the child-study generalizer who, adopting the scientific method, gathers a mass of facts about children and then generalizes for the mass on the theory of averages.

It compels these at frequent intervals to "go way back and sit down," while the individual teacher studies each child and endeavors to give him the food he needs. This doctrine compels us to admit that the need of each child must, to a very considerable degree, determine both the subject-matter and the method of his education. It asserts that interest, appetite, is one of the indications of need. Of course, it does not deny that there may be bad appetites which may not be indulged; that the child may not have an appetite for what he has never tasted; and hence new appetites may be induced by the presentation of new foods. But this is a mere caution. It denies that all food is fit for children. It recognizes that the child is not a little adult, but is a very unevenly developed organism, whose proper nutriment can only partially be determined by any generalizations or systems of averages regarding that which is outside of him.

The mind truly nourished by knowledge is not inflated like a balloon, it is not expanded into a sphere, it is not even symmetrically developed; it grows into its environment near and remote, it develops power for use in the world it must live in.

As learning represents the reaction of the mind against its environment, it follows that in order to make complete the learning there must be furnished abundance of opportunity for that form of mental activity which we call expression; for nutrition is the result, not merely of successful feeding, but of exercise as well. For genuine nutrition, free movement, employing the strength which nutriment furnishes in as many ways as possible, is necessary.

The child cannot learn truly by merely sitting and conning books. A necessary accompaniment to this reception of fact must be the putting into effect the thing learned; that is, the children must express what they are learning in order that the act of learning may be complete, and they must express it in as many ways as possible, in ways most natural; this is the method of the larger world. The man who does things and makes things understands the things better than the one who simply observes. So that school must represent the larger life, not

merely in furnishing a rich environment, nutritious and strengthening, but also in furnishing abundance of inducements for activity.

There have been some recent utterances indicating a belief that the best way for children to learn is in isolation; that, if children were shut up away from the world in a thesaurus of facts about life, they would absorb them and at the end would come forth enriched and ready to do something. This would seem hardly worth notice except for the exalted source whence it comes.

Shutting in a child from his environing world in a world of books, and keeping him isolated, that at some time he may be given back to the world enriched with the knowledge of the past and the remote, has a large and philosophical sound, but is really sheer nonsense. It suggests the dutiful son who runs away in boyhood and after forty years comes back with a fortune, pays off the mortgage on the old farm, and gives his aged parents a fine funeral.

It is the fashion to trace our philosophical notions back to the Greek philosophers. I can think of none upon whom the responsibility for this notion can be placed except the *scholastikos* who advised his son to learn to swim before going into the water. Knowledge is still too often regarded as the acquisition to be put into safe-deposit vaults against a rainy day.

No one holds in greater reverence than I the treasures preserved in literature and the other monuments of men's labors. But the value of all this is manifest only when it makes man more efficient in the present. It is well, it is noble, for men in cloistered retreats to seek out and preserve truths unknown before, because, even though they may little enrich the discoverers, they enrich the world and will enable others to serve their day. Such search is the exalted mode of serving, chosen by the few. It constitutes their life, but this is not education for the many.

In school the study interprets life and life interprets it. The riches of all ages and all worlds, in so far as they are disclosed to the eye-minded, merely nourish through knowledge

the student's mind, and hence they give a wider and fuller, and deeper insight into the world in which he must live and work, and make higher service possible.

Cloistered isolation suggests two worlds, a double life: that of the immediate present, the pressing environment; and that of the remote in time and space, the world-wide, the world-old. Such a double life, if possible, would defeat its own ends. It would fill the world with learned incompetents.

The popular demand for practical education rests on a firm foundation of philosophy and psychology. It is, like an instinct, not to be ignored. The popular error is not in the demand, but in a misunderstanding of what is really practical, narrowing it to a few manifest values, as the commercial.

But the people are often wiser than the philosophers. Knowledge acquired in education should be closely and constantly related to life. It should expand life. The double life is absurd. At no time should the content of knowledge given to the young for educative purposes be narrow. It should be as broad as interest and should continually broaden interest. Nourishment includes vastly more than the mere acquisition of food, it involves such exercise as shall change the food into brawn. This exercise may not be merely the effort necessary to acquisition. The body will not thrive through exercising the digestive organs alone; it will be fat and flabby like the swine which, while fattening, is not allowed to roam at will for exercise. The exercise must be of the organs in which we desire to produce strength. This is the argument against extreme isolation in school life, and for allying the school as closely with the abounding life of the world as possible.

The athlete is isolated only from what is harmful, not from activities. He is not shut up in the dining-room. School is life to prepare for life. Knowledge is always the basis—wide, varied, multitudinous knowledge; but as acquired it must be employed.

The test of a theory regarding education and of the sincerity with which it is held is found in the kind of school produced. There are instances enough of the truly educative school to

serve as criteria. In this school the children are the first consideration, not merely theoretically and sentimentally, but truly and thoughtfully. Their needs are the basis of all the instruction, and these are determined by the careful study, first of the children themselves, second of the world around them in which they must live, and they are studied together, with the aim that each child may grow into social efficiency, which is the end of education.

Thoroughness is not in this school a fetich; only so much of a branch of knowledge is given at a time as can be digested and assimilated. To expect a little child to know thoroughly any subject is as absurd as to expect him to consume all the bread in the house before eating any meat. Yet his knowledge is not a smattering. What he knows is thorough in one sense because it is vital. He knows thoroughly what he knows, for it is a part of him, after the biological analogy.

The elementary school in which the teachers sincerely and intelligently believe that the educative function of knowledge is to nourish the mind is the school in which children live a life of joyful activity. They go to their work with an eagerness comparable only to that with which they begin any of the natural activities of body or mind.

There is always a motive inherent in the work; it supplies a felt need. The activities employed in the process of education are no more unnatural than those essential to physical growth. The mind is surely as natural as the body, and, when healthy and normal, requires no more a violation of nature for its growth than does the body. But the work of the school is the work of children, and not of adults cut to a smaller pattern. There are activities suitable to children, and they all have an obvious purpose acceptable to the childish mind. Tasks dictated for an end obvious to the teacher alone, although that end may be the future welfare of the children, do not appeal to them. They certainly do not cultivate that most necessary of powers, the power to labor, to drudge even, for a high, though remote, end; for this power comes only from an appreciation of the worth of this remote end, not from blind obedience to another's will.

It is this appreciation of the worth of the end that supplies the inspiration necessary to carry us through long years of dreary drudgery toward a sought goal, and this end is evident in the true school, resting, according to the biological analogy, upon a belief in the living, growing mind requiring nourishment. It is lacking in all schools founded upon any other basis.

In this school the children acquire intelligence, for the air is charged with it. They not only know the common symbols of the eye-minded; they can apply them in a thousand ways not dreamed of in the "practical" school. They can read and write and cipher, for they continually use these arts to express the thoughts suggested by the countless things learned in their school life, and their intelligence is real, not verbal.

The children in this school receive discipline, for they work as they never do in the other schools. They work with a will, because they work with a motive. They get the kind of discipline that the man gets who toils night and day to perfect an invention for the advancement of civilization. The motive is inherent in the work itself, and consistent with it. It is not foreign and artificial, like a mark or a prize. This is the only true discipline. This develops self-direction, self-sacrifice, the subordination of ease, and all lower pleasure to the higher joy of work for achievement. It cultivates moral power, inner law, in place of the hypocritical yielding to external force too often bred in the so-called disciplinary school.

This school also furnishes the higher intelligence, the broad culture, of the third class, but vastly richer and more real. The content of the curriculum in the nutritive school is as broad as civilization, as extensive as the world, and it is approached in such a way as to make the knowledge real.

In no school is knowledge so highly valued — genuine, first-hand knowledge. The whole broadening of the curriculum, which is the most noticeable phenomenon of our modern school, is due to the spread of the belief that the mind is to be nourished by knowledge. Literature, history, science, music, art, sociology, manual training, domestic science, have come into the

school through this door. True, many have accepted them, not comprehending their educational value ; but that does not affect the major fact.

In this true school children are made acquainted with their material, social, and spiritual environment as in no other, not primarily because there is such an environment, a knowledge of which is useful, but because this knowledge furnishes the best nutriment to a mind growing into organized society — a society whose subordination of its material environment to spiritual ends constitutes its chief claim to superiority.

This school is the school of expression. The children engage in numberless activities employing all the powers of their minds. They express in varied ways what they receive. Thus they make it their own, incorporate it into the very constitution of their minds. The knowledge is not stored up against a day of comprehension ; but by the exercise attendant upon the various means of expression it grows into the fiber of their beings, and makes them strong and adaptable, as the athlete by exercise makes his food a part of himself.

In this school is freedom and joy and hard work and discipline and abundance of knowledge, because the center is a child, a growing child, needing nourishment rich and varied ; and every activity engaged in, and the knowledge imparted, are prepared to meet his needs. Thus and thus only is a child best fitted for social efficiency ; and social efficiency is the end of education.

C. B. GILBERT.

DEPARTMENT OF PUBLIC INSTRUCTION,
Rochester, N. Y.

THE RELATION OF THE KINDERGARTEN TO THE PRIMARY SCHOOL.

THE point of view of a person is broad, liberal, narrow, or prejudiced, according to the extent of his experience and the attitude of his mind toward new ideas. Perhaps it is well for humanity that conservatism is such an inherent quality of our nature; but it is equally fortunate that an occasional individual should be endowed with the spirit that dares all things that he may promulgate the new truth, or new aspect of an old truth, which he has discovered. The world has need of the conservatism of the many, on the one hand; of the enthusiasm of the individual, on the other.

New ideas, new methods of work, especially where their adoption would affect the community at large, need to be challenged that they may be seen in all the extent of their relation to past, present, and future before such adoption takes place. As we trace through history the great changes in thought, or empire, we realize how slowly the more radical and lasting of them have gained their hold upon mankind. For nearly two thousand years the humanity of the gospels has been conquering brutality, overcoming hatred and malice with brotherly love; nor is the work yet complete. So when we find in the educational world that new ideas, new methods of work, meet with rebuff, that teachers cling to the old and are suspicious of the new, it is only the old story; and it is wise, or helpless childhood might suffer more from experiments than from the clinging to old methods of doing things.

From some quarters the cry is heard that there is too much experimenting in educational work at the present time; that the children are suffering from it. While this may be true to a very small extent in isolated instances, the visitor in almost any primary school of our great country would be impressed with the prevalence of the *old* rather than the *new* in the essentials of the primary-school work. This is treading upon slippery

ground, but so many *mistake the addition of a little busy work for new methods in primary teaching.*

That the primary teacher even today should be a little suspicious of the kindergartner and her methods, should still be inclined to look upon kindergarten work as pure play tending toward riotous disorder, is not surprising. Too often the kindergartner, with the best motives in the world, rebelling against the restraint to child mind and body found in the primary-school room, but utterly ignorant of the actual conditions and problems which confront the primary teacher, has given voice to general principles, or specific rules, which the poor primary teacher, with a definite outline of work assigned for completion within a limited period, has found utterly impracticable of application. So it has come to pass that in some places a spirit of hostility has been engendered between kindergartner and teacher; in others mere tolerance of each other's work exists; while in still others that harmony of work which is believed to be possible is being sought.

Before a harmonious blending can be secured it is necessary to understand the nature of the separate parts which are to constitute the whole. If there is to be continuity in education from the kindergarten to the university, the nature of the work at its various stages, the relation of each to what precedes and to what follows, must be fully known.

For what does the kindergarten stand? "*Development through self-activity.*" A much-abused phrase, but nevertheless one which expresses in the fewest possible words the basis of the kindergarten system of education. To Frederick Froebel does not belong the honor of having discovered the principle involved. It had been seething in the minds of educators for generations. Rousseau and Pestalozzi labored hard to base their work upon it, but the former was led astray by the impracticable; the latter, like many of his successors, was hampered by the requirements of tradition. To Froebel belongs unquestionably the honor of flinging tradition to the winds and successfully placing such material in the hands of teacher and child as makes possible this "development through self-activity."

What is this material? How does it make possible the desired result? To his knowledge of books, nature, and educational principles Froebel added a study of childhood in its untrammelled moments, of motherhood in its unconscious efforts to assist the babe in growth of body and mind, and, after years of thought and experiment, prepared two sets of materials technically known as *gifts* and *occupations*, these to be supplemented by *games*. They form today, as originally, the curriculum of the kindergarten.

However fanciful some may think the derivation of Froebel's *gift* material to be, it nevertheless affords the child an opportunity of acquiring elementary ideas in number (quantitative as well as numerical), geometry, and physics, in the most natural, unconscious way, at the same time that hand, eye, and ear are being trained to accuracy, and the inventive imagination stimulated and given scope for action, for outer expression in tangible material. Should other material better adapted to put the child into possession of these elementary ideas, while developing his powers through use, be presented, it will be cordially welcomed by kindergartners.

The *occupations* present to the child the simple stages of the world's great industries and arts. Rightly used, they open up large opportunities for acquiring useful knowledge, a wholesome love for work, sympathy with the world's workers, as well as technical skill, ingenuity, self-reliance.

Then come the *games*, with their opportunities for social and spiritual development; their cultivation of a community spirit, of self-restraint, of brotherly love, and helpfulness. Time and space allow only the briefest statement of the most characteristic features of each of these occupations which constitute the trilogy of the kindergarten.

The great principle which underlies this system of education, which is the test of all its results, is its ability to arouse and develop through self-activity all the child's latent powers. Many a kindergartner, failing to grasp this truth, fails in securing to her little charges the full benefit which might accrue to them. Imitation and direction, which are necessary, indeed indispen-

sable, are too often allowed to become the most prominent part of the kindergartner's work with the children, thus preventing individual or original expression of thought on the children's part; while, on the other hand, some kindergartners are so lax in the presentation of material that for want of proper direction as to its possibilities both time and material are wasted, while untidy, shiftless habits are inculcated.

Freedom, not license, direction which tends to awaken and stimulate the child's self direction, should be the kindergartner's steadfast aim. Children thus trained will have gained a store of ideas plus a stimulus to fresh acquisitions; some power of expressing thought in material and language; a tendency to observe with accuracy, to infer cause from effect; will have acquired a certain skill of eye and hand, a certain power of attention, some measure of ingenuity, of self-direction, of self-reliance. Quite naturally this means a healthful activity on the part of the children.

Having now some idea of what kindergarten education means, we are ready to consider primary education. Of what does it consist? How does it differ today from that of a generation or so ago? What further changes must it undergo to meet successfully the conditions of today? And, lastly, is it possible to harmonize kindergarten and primary work?

In answer to the first question, "Of what does primary education consist?" the world at large would undoubtedly agree that it consists in the mastery of the "three R's." If we enter a primary class almost anywhere in our land today and remain throughout a session, the impression gained will be that the educational world likewise agrees to the truth of the old saying; nor do educational writings convey any other impression as a rule. I know not whether anyone has as yet asserted that *reading, writing, and arithmetic are not the chief work of the primary school*. Yet there are signs that such a conviction will be reached and acted upon before many years have passed.

It is not necessary to go back more than three generations to reach a time when life was simpler, when children came more directly into contact with nature and with the industries in their simpler forms. Though school life was something entirely sepa-

rate and foreign to the other experiences of their life; though it chiefly called into play memory at the expense of more important mental powers, yet the home life and environment offered so many opportunities for the healthy, natural growth of these other powers of mind and body that children did not suffer so seriously from the narrowing process of routine school work. It was hateful, it was drudgery to them. When conquered, it was looked back upon with complacency, even gratitude, as one of the elements which had helped "make the man." But when *it* conquered, many, many have been the men and women who have thought with a sigh of what "might have been."

But today the conditions of life are wholly unlike those of our grandfathers' time. The environment into which the vast majority of children enter at birth offers but little help to the healthful, natural unfolding of childhood's latent powers. The crowding into those great centers of civilization, the cities, the centralization and specialization of the great industries, the contact with only finished products, deprive children of familiarity with the raw materials, with the processes of their manufacture—formerly for the most part by hand—and the inspiration to imitate or aid their elders thus afforded; they lose, too, that healthful sense of manly power, of self-respect, which springs from the conquest of nature, from the ability to turn the raw products into articles serviceable to mankind; they miss that counter-check to overweening self-importance which a realization of the limit to man's power furnishes through this more direct contact with nature.

It is only the children of the very poorest who are brought into contact with the great industries of today—and then in a way that tends to cramp and dwarf all their powers, to make them mere machines skilful in one little direction, utterly helpless and useless in any other position of life.

In the home life conditions are also changed. The many little duties which the boys in the vast majority of families were expected to perform as their rightful share in easing the burden of family toil, and which afforded the best opportunities, under natural conditions, for the growing powers of the boy to expand,

no longer exist. Modern conveniences in the home economy have freed the boys from all participation in that mutual helpfulness which aids so to strengthen the ties of family love and duty. Where their help is necessary to increase the family income, even where not employed in a factory, industrial conditions are such that it is impossible for the boy to avoid contact with that spirit of competition which so warps mind and soul, so lowers life's ideals, when it enters into the young life. The girls have not yet been so fully released from their share in home duties. Let us hope they may not be, at least until something equally as potent in teaching unselfish efforts in others' behalf be found.

With these changes in environment, which shut out so much of the old that was helpful in the all-around development of children, new conditions, new responsibilities, confronted the teacher. The old routine of school work, which gave no thought to a symmetrical development of all the powers of body, mind, and soul, but sought chiefly through constant drill to secure well-stored minds, was now seen to be totally inadequate. The school must in some way supply, and in more ideal form, conditions which had formerly existed in home and environment, but are now lacking.

It was to meet this strongly-felt need that manual training was introduced into the high school, at the same time that, for this and other reasons, the kindergarten was gradually commending itself to public favor and patronage. But between the kindergarten age and that deemed suitable for manual training lay the years, from six to twelve or fourteen, when the vast majority of children must complete their school work; years, too, when mind and soul are in their most plastic stage. Must these years, the only available ones for school training for such large numbers of children, be given over to the old routine work? Must one-half of them be devoted to acquiring a mastery of the mere tools of knowledge?

Slowly but surely the influence from above and below, from manual training and kindergarten, has been filtering through these intervening years and causing changes for the better, but

there remains much to be done yet, especially in the primary department. The present transitional state of the work bears with far greater strenuousness upon the primary teacher than upon the children. For, while retaining all the old work, she must add to it all the newer elements, often taxing time and ingenuity to the utmost to bring about the desired results.

It is undeniably true that the greater part of the school time from the first through the fourth year is given over to acquiring a degree of fluency in reading, greater or less according to the standard required, to gaining a legible handwriting, some power of expressing thought in writing, and some ability to use figures. I use the word "figures" advisedly, for the "science of number" seems to be something entirely different from the use of figures as ordinarily taught in the primary school. A little six-year-old girl of my acquaintance, who could read numbers into the hundreds as we rode down Broadway in New York city, was given five peanuts one day. She was observed to arrange them in order, count them, then eat the one she had counted last. Asked how many she had left, she replied, "Four." "How many did you eat?" Answer, "Five." "Why!" was the astonished response, "how many did you have at first?" "Five," said the child. "Then, how many have you eaten?" "Five," persisted the child. The numerals stood in that child's mind, as in many another child's, for names, not quantities. Very seldom are children so taught number as to understand the unit value of our notation, of fractions, and of decimals. Some years of experience with hundreds of high-school graduates demonstrated the haziness of the simplest mathematical principles in the average mind. Permit a single illustration: $\frac{1}{4}$ of 8 and $8 \div 4$ are regarded by many as identical expressions. How is it with the similar expressions $\frac{1}{4}$ of $\frac{1}{8}$ and $\frac{1}{8} \div \frac{1}{4}$? The mathematical language in the expressions $\frac{1}{4}$ of 8 and $\frac{1}{4}$ of $\frac{1}{8}$ is certainly the same; as is also that of $8 \div 4$ and $\frac{1}{8} \div \frac{1}{4}$. The trouble is that of letting a *seemingly* identical answer obscure the underlying principle. The first case calls for a definite *part* of a definite quantity; the second for the *measuring* of a definite quantity by another definite quantity. This is but one of the many obscurities that baffle the child-mind.

All this would seem to indicate the need of better teaching, and probably better teaching with fewer children in the class would give far better results than are now obtainable. But the real trouble lies deeper than that and affects, not the arithmetic alone, but the reading and the writing. The great difficulty is that of forcing the *child-mind to grasp new ideas and their expression in new, unknown characters at the same time*. In arithmetic the child-mind is capable of grasping the fundamental principles and applying them with amazing precision in the problems which emerge in connection with work or play, if not confused with figures, a language for which as yet he has found no need. Similarly, before he can use with any degree of accuracy his own eyes, ears, and other senses to gain thought, his own tongue to express it, he is forced to the written or printed page to obtain—what, thought? Oh, no! but repetitious nonsense in which he has no interest except that derived from pleasing his elders by this accomplishment.

Anyone who has taught large numbers of little children of five and six years of age to read; who has watched the earnest, intent little faces; seen the struggle to understand; seen the baffled, defeated look so often creep into the bright eyes—has realized the need for care lest defeat be followed by despair. Children of even average ability can undoubtedly be taught to read with considerable fluency between the ages of five and seven. But though the best devices known in teaching today are used, it is accomplished by means of constant repetition. The devices relieve the monotony, but the process nevertheless is repetition, memory. It cannot be otherwise with such young children, and it must necessarily consume the greater part of the time allotted to school work.

So far as primary education is concerned, the chief difference between the *new education of today and that of a generation or so ago lies in the use of devices to mitigate the rigor and monotony of the work*. The idea of interest, of variety in unity, as factors in securing the child's co-operation, has modified the way of presenting facts or truths to the young mind; the need of hand-work, to relieve both mind and body, has changed the routine

of work ; the introduction of stories and nature study offers food for the imagination, opportunity for the training of sense-perception, of observation.

But with the vast majority of teachers these are even yet perfunctory details, adjuncts to their daily work, oftentimes grudgingly attended to because of the time they consume. Judging from the outlines of primary work usually furnished to teachers, it would seem that many supervisors attach but little value to them also. Thoughtful educators and teachers are coming slowly but surely to give to the handwork, the stories, the games, and the nature work the value rightfully due them ; for they alone afford opportunity for the development of powers which make for character, fit for life. And the other work which formerly usurped all the time seems somehow to be acquired with greater ease in less time. "So the last shall be first, and the first last," is as true of the importance to be attached to the several phases of primary-school work as of judgment in the essentials which constitute character.

When that which was introduced to mitigate what was regarded as the legitimate work of the primary school usurps the place of that work and becomes *the* work ; when, in other words, reading, writing, and figuring are relegated to their proper place, becoming the incidentals of primary work, then we shall, indeed, have in the primary school the *new education*.

When manual training was introduced into the high school it was feared that the purely intellectual work would suffer. It remained for experiment to prove the contrary, which it did. Educators have always feared lest the age when memory is easily retentive be passed before children acquire a mastery of those necessary tools, the "three R's," which open the gateway into real knowledge, so they have erred in burdening the child with them before he was ready to receive or use them. This, too, at a time which might better have been spent in introducing to him, through stories told, the great thoughts and ideals which folk and fairy lore, literature, and history hold for him, when, in connection with handwork, problems in measuring, weighing, computing, which would be real tests of mental power,

should be solved ; when habits of observation, inference, generalization, self-direction, self-reliance—in short, all the aptitudes which make the future student possible—should be forming. The *new education*, when it is fully come, will bear in mind the necessity of mastering the written characters of knowledge, but will *first provide thoughts to express, then the means of expressing them.*

When the great principle of the kindergarten, “development through self-activity,” has become the watchword of the primary school likewise, the children in passing from one to the other will not experience that strange change in atmosphere and work which leads the more active of them to use their aroused but unemployed powers in the invention of mischief, and which leaves the duller of them, whose glimmer of light has been snuffed out, to grope in denser darkness. The teacher of the primary class will no longer wonder what she is to do with those active, restless little kindergarten children, for she will be able to direct and employ to the full the alert powers of mind and body awaiting her guidance.

EMMA A. NEWMAN.

Buffalo, N. Y.

KINDERGARTEN PLAN FOR THE SPRING QUARTER.

ANNE ELIZABETH ALLEN.

THE garden will be the focal point toward which the work in the kindergarten for the spring term will be directed. Every element directly affecting this subject will be closely observed, and the pictorial aspect of the whole subject will be worked out. From the time of the opening of the first pussy-willows every change in our environment will be watched. The first budding of the trees, return of the birds, opening of cocoons, length of day, rising and setting of sun will be noticed. We shall have constant outdoor excursions to the parks and lake in order to follow closely these changes as they appear.

Last October much of our time was spent in collecting seeds from the plants in the entire garden. These were separated, divided, and put away in envelopes made by the children. This spring we shall set aside a part of our garden space for planting these seeds as we choose, avoiding only too much crowding and finding out the best place for vines as well as plants needing no support. Besides this space, each child will have a plot of ground for himself in which he may plant the seeds he brings from home. If we may have more ground we shall plant vegetables that the summer-school children may use for their parties. The older children will be helped (not interfered with) to find the best way to plant their seeds, while the younger ones will be left mostly to their own devices.

The following is only a suggestive program which will yield to any stronger interests which may grow out of our winter work :

APRIL.

Water, its source and uses.—Where does water come from? Where do the water pipes get it? Where do the clouds get it? Where does the rain fall? Where does it all go when it falls upon the ground, sidewalks, houses, into the street gutters, etc.? (Trace water to the lake.) Where do the clouds get the water? (Experiments in evaporating and condensing water; condense steam from spout of teakettle, etc.) What becomes of the water that falls upon the ground? (Experiment with different soils.) Watch action of rain on the ground; how it makes ridges and carries off particles; how it settles in hollow places and runs down inclined places. Go to the lake and watch action of waves on the shore. Uses of water in homes—such as bathing, drinking, scrubbing, washing dishes and clothes, and sprinkling the lawn.

Work of sun and wind.—Use sunglass to show how hot the concentrated rays are. Effect of sun on plant life. Why do we have greenhouses? Visit conservatory in South Park, noting structure and temperature. Compare

temperature inside and out, and note how plants thrive in such an atmosphere, specially calling attention to the moisture there.

What do we see the wind doing when we go to the parks or along the street? Have you ever seen it carrying seeds? (Show how the wind will carry milkweed seed.) Why does it carry seeds? What else carries them? Did you ever see seeds being carried by water?

MAY AND JUNE.

These two months will be spent mostly in making our garden. Things to be considered in making our garden: ground space, its situation and protection; kind of soil; supply of water; tools needed; use of each kind; care in planting. What do plants need? (This as a review and to give the children personal experiences.)

Test with four seeds of same kind: First seed, plant in soil without water; second seed, plant in wet soil and keep in the dark; to third seed, give water and no soil; to fourth seed, give water, soil, and light. Note effect of treatment on each and decide upon best conditions for our garden.

We shall spend at least an hour a day out-of-doors and devote what time is needed to the care of the garden, bringing in the weeds as they appear, so that the children may become acquainted with them and know what plants to discard.

Materials used.—Large blocks for roofs, gutters, sidewalks; second-gift beads, garden hose, and springling carts; clay for modeling hose, bath-tub, sprinkling hose, dishpan, laundry tubs, and soap; also for making birds' nests and cocoons; soft tin for garden tools; sunglass and prism; triangular, circular, and square tablets to represent flower beds.

Number processes.—Measuring garden beds; spacing for planting of seeds; dividing up the seeds among each other; best forms for flower beds experimented with, having in mind the economy of space.

Games.—Impersonation of growing plants; cocoons and moths; hen and chickens; mother bird with little birds; clouds and rain; dandelions.

Songs.—Eleanor Smith, "To the Great Brown House;" "In the Snowing and the Blowing;" "In a Hedge;" "Plump Little Baby Clouds;" "The Rain Carriage;" "God Sends His Bright Spring Sun;" "Baby, What Do the Blossoms say?" Jessie Gaynor, "The Light Bird;" "The Tree's Friend;" "The Flower Bed;" "Birth of the Butterfly."

Stories.—Celia Thaxter, "Peggy's Garden and What Grew Therein;" A. E. Allen, "Three Neighbors;" F. J. Cooke, "The Swan Maidens," "The Palace of Alkimös;" Scudder, "The Story of Chicken-Licken;" M. M. Dodge, "How Double-darling's Shoes Became Ladies' Slippers;" K. D. Wiggin, "Aqua, or the Water Baby;" F. Stockton, "Old Pipes and the Dryad."

GRADE OUTLINES.

FIRST GRADE.

BERTHA PAYNE.

History.—The doll-houses, began in October, will have been put together, painted, and papered, and the process of furnishing will have been begun by the 1st of April. During the spring quarter the children will finish the furniture and glaze the windows, using mica in the place of window glass. The dining-rooms and kitchens will be supplied with dishes, which the children will make and which will be burned in the kiln. In connection with the pottery, stories will be told of the invention of pottery. The children will be taken to the museum to see the coiled pottery of the Hopi Indians and the decorations on primitive dishes. Tin utensils will be made for the kitchen from the lightest weight tin. When the houses are finished sufficiently for use in play, a village will be arranged with them, and, as this will suggest the need of shops, some of the houses may be converted into stores, a post-office may be arranged, and the children may invite the kindergarten children to join them in plays of housekeeping and storekeeping. The children of the third grade have arranged their garden plot to represent a farm with a log-house upon it. This gives opportunity for interchange between village and farm, by transportation of crops from one to the other when houses are taken out into the garden.

Geography and nature study.—1. Trips to swamp and woods will give the children material with which to stock an aquarium and a wood garden. Comparison of soil of each with that of the school garden and adjoining field. Fitness of environment to characteristic plant life in each case.

2. Planning garden: apportionment of plots to individual children. Testing soil by starting seeds, some in pots filled with earth from garden, others in earth with fertilizers added, others in clay, and others in sand. Pots kept under same light and same heat, and given same quantity of water.

3. Seeds saved last October examined and choices made for planting, first, on basis of child's unguided preference; secondly, on possible uses of crops during fall and winter; thirdly, on basis of summer use by kindergarten and primary classes in summer school.

4. Preparation of ground: planting seeds, bulbs, and tubers. Weeding and watering. Observation of effect of rain, and use of hose on newly planted seeds and on seedlings. Observation of effects of washing under drip of eaves of schoolhouse roof where perennials and bulbs were planted last year.

5. Birds: time of return, nesting, songs, notes, coloration, and habits. Food of birds. Robins watched in park. Children may try to count the number of grubs taken from sod by a robin in a given twenty minutes. Relation of birds to insect life. Relation of insect to plant life as seen in garden. Relation of birds to crops.

6. Observation of insects found in garden—appearance, habits, food. Cage made as described in *ELEMENTARY SCHOOL TEACHER*, Vol. II, p. 659. Use of earthworms. Cage made for earthworms of two pieces of glass, each 18 x 22 inches, fitted into grooves in two pieces of wood each 1½ x 22 inches. Pieces of wood placed opposite each other and cage set in a pan of water, one open end in pan, the other facing upward. Cage filled with earth and earthworms. (See Hodge, *Nature and Life*, p. 427.)

7. Observation of water insects, fish, crawfish, and turtle. Questions to be answered by the children: "What do they eat?" "How do they eat?" and "How do they move?" Development of frog's eggs watched.

NOTE.—In nearly all of this work with living creatures there will be very few formal lessons. The children will be given something to do for or with plants and animals. Some questions will be asked and plenty of time given for the answer. Frequent opportunities will be given for graphic representation, in painting and drawing, and occasionally some written expression will be asked for.

8. Trees: a few typical trees, selected last fall, will be watched and sketched from time of first opening of buds until close of school. Several twigs upon each tree will be marked at opening of terminal buds; one child may measure and record growth of each tree, and may sketch its leaves and blossoms, and its whole appearance, from time to time.

Literature.—Story of "Palissey the Potter;" "The Porcelain Stove," from *The Story Hour*, by K. D. Wiggin; "Rhoecus," by Lowell; "Old Pipes and the Dryad," by Frank R. Stockton; "Birds of Killingworth," by Longfellow; "King Solomon and the Bees," selections from *Just So Stories*, by Kipling.

Reading.—Incidental reading of explanatory words, or lists needed in work. Dictations in manual training and construction. Records in experiments. Recipes in cooking. Short stories taken from "Bird Stories" in the *C. C. N. S. Envelope* and *Literature Series* by Flora J. Cooke. (See *COURSE OF STUDY*, Vol. I.)

Painting and drawing.—Weekly sketches of landscape. Twigs at various stages of growth. Seedlings from first appearance of change until plants blossom. Flowers of woods and garden in two series, made into a booklet. Cover designs for these books made by conventionalizing any flower chosen. Designs carried out, whether in water color or paper cutting, and made to illustrate some principle of design, such as an all-over pattern of repeated units, or border pattern of alternated and repeated units, with centerpiece.

Number.—Addition, subtraction, multiplication, and division necessary in buying.

Plotting space twenty feet square to give each of sixteen children an equal share. Keeping account of money expended for cocoa, milk, and desk supplies from allowance of 25 cents per week. Measurement of rooms of toy-house for accommodation of furniture. Measurements needed in making furniture of wood from rough stock. Measurements for toy-wagon reduced from real wagon, feet reduced to half-inches.

Recipes for cooking enlarged from quantities sufficient for one person to that needed for two, for four, or for sixteen. This brings into use relation of gills, pints, and quarts, ounces and pounds.

Cooking.—Food prepared over gas stoves and baked in oven built out-of-doors last November. Baking of potatoes, eggs, and apples. Making custard and cornstarch pudding. Preparation of lemonade and whipped cream. Starch made from potato, and used in starching doll clothes.

Clay-modeling.—Dishes for use in doll's house and larger dishes for use in outdoor luncheons.

THIRD GRADE.

GUDRUN THORNE-THOMSEN.

WITH the first signs of spring, when things are happening out-of-doors, the children demand a life away from the schoolroom; they demand work very different from that of the winter months. Ideally, the school should then be only a convenient place in which to discuss the experiences of the outdoor life. As far as possible, the children will go on excursions every week during May and June, to the farm, woods, swamp, and prairies in the neighborhood. The school garden will afford an excellent opportunity for a great deal of healthful work. The school garden is 160 feet long and 40 feet wide. Each grade will have allotted to it a piece of ground with full responsibility for its planting, sowing, weeding, and harvesting. Although the actual work in the garden will not begin until May, the children must make their plans beforehand and find out what they need to know in order to conduct the work successfully.

A log-house, sheds, and stables made of wood, and the farm animals made of clay, have been finished during the winter quarter. The third grade will have 724 square feet of the school garden at its disposal, and this ground will be turned into a miniature farm. The plan, measurements of the fields to a scale, fences, roads, etc., will be made by the children to suit their fancies. Flowers will be planted around the farmhouse; the kitchen garden will, of course, be found in the rear. Wheat, corn, oats, and timothy will probably be sown in the fields; potatoes, turnips, peas, beans, and lettuce in the kitchen garden; while salvia, cornflowers, phlox, and sweet alyssum will blossom in the farm garden.

Before the actual farm work begins, the children will make drawings to show the general plan of the farm, with its fields and gardens. When they have decided which flowers and grains to plant, they must find out about the

habits and demands of those plants, the condition of the soil, how to prepare it for the proper growth of the seed or plant, how deep to plant, etc.

The means of getting this knowledge will be: (1) to write for information to the children at Kansas, Ill., who live on farms where wheat, corn, potatoes, and other plants are grown; (2) to visit a farm while planting is in process; (3) to read.

When germination takes place out-of-doors, the children will make a careful study of the plant and animal life on a prairie area selected for the purpose. Each child will make a calendar on a large piece of white bristol board, to keep a record of what goes on in his plot. He will also note in his record the appearance of trees, the returning birds, insect life—in short, any sign of the reawakening of spring. The daily weather observations, particularly of the temperature and rainfall, will now be used to build up the picture of cause and effect, the increase of heat explaining the changes taking place. For suggestions on work in germination and the preparation of boxes in which to plant the seeds, see Jackman's *Nature Study*, pp. 312-15.

Several experiments may be performed to show how water is absorbed by a plant. For instance:

1. Allow a small plant to grow in a bottle of colored water. (The water may be colored with eosin.) In a short time the red color will be spread all over the stem and leaves of the plant.

2. How much moisture does a plant use in a certain length of time? Let a sturdy plant grow in a bottle filled with good soil, moistened. Cork the bottle tightly, allowing the plant to come through a small hole in the cork. The space around the stem must be sealed up. Weigh the whole thing. After a number of days, weigh again.

In order to understand the value of soils in relation to plant life, it will be necessary to perform experiments which will show some of the physical properties of soils. The following directions are taken from Jackman's *Nature Study*, p. 436:

- "1. To find the rate at which soils allow water to pass through them, take several glass tubes, about half an inch in diameter and a foot long, and tie over one end a piece of linen. Fill each one with a different specimen of soil which has been finely powdered and well dried. Set the tubes upright in a vessel having about an inch of water in it, and note the rate at which the water rises in the different tubes. Keep the water at a constant level in the pan by occasional additions.

- "2. To illustrate the different capacities for water: Fold two filters and place them loosely, one inside the other, in a funnel. Carefully dry and place on a filter an ounce of finely powdered soil. Add to this cold water by drops until it begins to trickle down the funnel tube. Continue to add until sure that the soil is perfectly saturated, and then remove the filters to a piece of blotting paper or a cloth which will absorb the moisture from them. Then place the under filter in one scale pan, and the other one, with the soil

upon it, upon the other, and balance with weights. How much heavier is it now than the dry soil? What part of it is water?"

As soon as the first spring flowers appear, an excursion will be taken to the woods. Points for study: (1) Location of first flowers found. (2) Do they grow singly or in mass? (3) What makes them appear so early?

A sugar maple will have been selected previous to the excursion, and one tapping will have taken place in March. On the excursion the tree will be tapped again. The flowing of the sap will help the children to realize the work of the tree at this time. Boiling the sap to syrup and sugar will follow this observation.

Study of returning birds: Continual visits to the parks; birds observed on excursions; the interrelation of bird, insect, and plant life; the structure of birds—bill, feet, wings, shape of body—as adapted to particular functions. (Specimens in museum used.) Painting, drawing, and modeling are the chief aids to observation in this study. The children will have an opportunity to verify their observations and to find out what they have no means to observe by using the books in the library bearing on the above subjects.

Gardening.—The gardening will take the place of the regular cooking lessons, which will be discontinued during the spring quarter. With the exception of the plowing, which the children will watch, all the rest of the gardening will be done by them. Raking, sowing, and planting, watering when necessary, weeding, freeing the plants from injurious animal life, comprise this work.

History.—The children have completed the farm buildings and stocked the farm. When the products are raised, a market must be found. The first grade will by this time have finished its houses, which will be made into a village and placed at some distance from the farm. The farmers fill their wagons (made in the manual training) with their farm products, radishes and lettuce, and drive to a station, where these products are loaded on a train (made by the fourth-grade children), which runs to the village. The beginning of a town will be the subject of study; where situated, stores, grain elevators, railroads, etc. Means of study: visits to South Water street to see truck farmers' products, the commission-house men buying, etc.; maps of the United States for the location of town and cities. Why is Chicago where it is?

Mathematics.—The garden work demands a great deal of work in measuring distances, and ideas of area, dry measure, and values. The history work necessitates a close study of interchange of commodities. It will be necessary to ascertain the prices of farm products, cost of transportation, market value, value of labor, etc.

Literature.—Spring poems to be committed to memory. A spring festival will be held, the third grade taking part in the dramatization of the story

of the "Sleeping Beauty." The story will be told to the children, they working it into a play.

FOURTH GRADE.

ROSE PHILLIPS.

History.—The work of the winter quarter has been the history of the making of the city of Chicago. In tracing the growth of the city, it was necessary to emphasize its location in relation to the surrounding country. The development of transportation and means of communication has formed an important feature of the work.

In the spring we shall consider some of the modes of public service—those functions of government by which the comfort of the people in a great city is secured. Among these are supplying water, making and illuminating streets, and building bridges.

1. Water supply: Source; means by which it is brought into our houses; relation to health of people; primitive methods of obtaining water; story of the construction of the first crib and tunnel; visit pumping station and crib.

REFERENCES: Kirkland, *History of Chicago*; Andreas, *History of Chicago*; Cleaver, *Reminiscences of Early Chicago*, p. 47; *Journal of Western Society of Engineers*, February, 1901; *Water System of Chicago* (published by J. M. Wing & Co., 1874); Mason, *Water Supply*; Hasen, *The Filtration of Public Water Supplies*.

2. Streets: Plan of city; width of streets; kinds of paving; history of street-paving; street-cleaning; stories of noted roads, as those of the Romans; visit Field Columbian Museum.

REFERENCES: Andreas, *History of Chicago*, p. 56; Bross, *History of Chicago*, pp. 48, 118, 119; Cleaver, *Reminiscences of Early Chicago*, p. 29 ("Fergus Papers"); *Shop Talk of the Wonders of the Crafts*, Second Series, pp. 176, 203, 229; Currier, *Practical Hygiene*, p. 155; Waring, "Street Cleaning in New York and Abroad," *Municipal Affairs*, Supplement, June, 1899; Campbell, "Road Construction and System of Control," *Sanitarium*, April, 1901; Shaw, "George Edward Waring," *Review of Reviews*, Vol. XVIII.

3. Illumination: Present methods; advantages of each and cost of each; history of methods of lighting; the lamplighter.

REFERENCES: Knight, *American Mechanical Dictionary*; *Municipal Engineering*; Earle, *Home Life in Colonial Days*, p. 32; *The Evolution of Artificial Light* (published by the Union Pacific Railroad, 1893—Chicago Public Library); *Municipal Affairs*.

4. Bridges: Present appearance; artistic and inartistic examples; history of the old ferries and of the methods of bridge construction; difficulty of reconciling the commerce of the river with the traffic of the city.

REFERENCES: Andreas, *History of Chicago*; Kirkland, *History of Chicago*, p. 24; Heck, *Iconographic Encyclopedia*, "Bridges;" Knight, *Mechanical Dictionary*, "Bridges;" *Universal Cyclopædia*, "Bridges;" Moffett, "The Bridge Builder" (careers

of Donger and Doring), *St. Nicholas*, Vol. XXVIII, p. 588; Woodbridge, "Bridges, Artistic and Inartistic," *Brush and Pencil*, September, 1901; Barnard, "The Brooklyn Bridge," *St. Nicholas*, Vol. X, p. 689; Stockton, "Personally Conducted," *ibid.*, Vol. XII, p. 20; Walden, "The Story of an Old Bridge," *ibid.*, Vol. XV, p. 277; Hameson, "The Evolution of the Modern Railway Bridge," *Popular Science Monthly*, Vol. XXXVI (1890), p. 461.

Nature study.—Plants: Before plants begin their growing, temperature of soil and air will be taken daily to ascertain the warmth necessary for budding and germinating. Other conditions conducive or inimical to early growth will be noted, as (a) location, sunny or shaded, sheltered or exposed; (b) soil, loose or compact, quality; (c) ground, grassy or bare, sloping or level.

1. Trees: (a) bud protection; (b) order of budding; (c) growth at end of twigs; (d) yearly additions to trunk.

2. Biennials and root-plants; (a) underground stems; (b) roots; (c) relative number; (d) date of appearance of growth; (e) depth of root; (f) time of flowering; (g) time of seeding.

3. Seedlings. (a) Noting order of appearance. (b) Determining approximately the number of seeds germinating from a given amount of (1) soil to the depth of four inches; (2) soil below four inches. (c) Placing plants at a disadvantage in regard to (1) light, (2) moisture, (3) soil, (4) air, (5) depth of planting, (6) distance of planting, (7) weeding, to note adaptations, and to give basis of comparison with plants under opposite conditions.

In the consideration of the school-garden, the children's experience, experiments, seed-catalogues, and books on gardening will be used as aids in solving the problems that arise as to its planting and care.

REFERENCES: Jackman, *Nature Study in Grammar Grades* and *Nature Study in Common Schools*; Coulter, *Plant Life*; Jordan, *Animal Life* and *Animal Forms*; Comstock, *Entomology*; Weed, *Entomology*; Apgar, *Trees of North America*; Kerner and Oliver, *Natural History of Plants*.

Geography.—I. Water supply of Chicago: Visit crib and pumping station; also where basements are being dug which reach ground water. Water tunnels; manner of construction. Springs, wells, rivers, as sources of water supply: (1) springs, formation, kinds of; (2) wells, common and artesian; modes of well-making.

II. Clothing, sources of materials: (1) Cotton; plant in school-garden; best conditions for growth; cotton culture in southern United States; picture life on cotton plantation. (2) Wool; visit Stock Yards for sheep and wool; picture life on sheep ranch; sheep-shearing and preparation of wool for cloth. (3) Silk; raise silkworm in schoolroom; best conditions for growth of silkworms; stories of silk culture in China and Japan. (4) Flax; pupils plant flax in garden; flax culture; preparation for linen.

REFERENCES: See Miss Baber's "Outline of Geography" for December.

Literature.—During the winter quarter two stories, .007 and *The Ship that Found Herself*, by Kipling, have been read. *The Adoption of Marwgli*, by

the same author, has been read and dramatized. In the spring quarter, *Viking Tales*, by Jennie Hall, and *The Story of Seigfried*, by Baldwin, will be read.

French.—The work will connect with the study of flowers and birds. A French picnic at Thatcher's Park (Oak Park) is anticipated.

Arithmetic will be essential to the work in nature study, history, and geography, and in keeping account of the expenses incurred by the children. Drawing, painting, clay-modeling, and manual training will be made use of as the study of the central subjects demands.

FIFTH GRADE.

GERTRUDE VAN HOESEN.

History.—The settlement of New York.

I. Story of Henry Hudson: (1) geography of the Hudson valley; (2) read *Rip Van Winkle*, by Washington Irving.

II. Character of the Dutch: (1) geography of Holland; (2) customs of the people; (3) read *Hans Brinker*; (4) read *Little Town of Brook*, by Washington Irving.

III. Settlement of New Netherlands: (1) establishment of trading posts; (2) New Amsterdam; its position; study maps to see its importance as a gateway to the West; (3) cause for the estates of the patroons; (4) compare with the English colonies in regard to trade, schools, and political and religious freedom; (5) story of Peter Stuyvesant; (6) change from Dutch to English rule—causes and results.

Geography.—Study of geographical conditions influencing the settlement of New York. Study of Hudson river as a type of drowned river valley. Experiment in laboratory, showing methods of formation of such river valleys. (See Miss Baber's "Outline for Fifth Grade," secs. 2 and 3.)

Civics (from Miss Rice's outline, November, 1901).—Protection: (1) Fire—appliances; stories of firemen and their work; taxation necessary for the support of the fire department; history of the methods of protection from fire; relation of fires to modes of building. (2) Police—duties; cost of maintenance; public institutions under their care; contrast soldiers at Fort Dearborn; the knight of Middle Ages; the tithing man of New England. (3) Life-saving station—duties of the crew; value to Chicago. (4) Sanitation—sewerage; garbage; board of health.

Science.—Observations in connection with the awakening of spring: (1) birds; (2) insects; (3) trees; (4) plants; (5) the change in the sun's shadow; (6) the difference in temperature; (7) the changing landscape, recorded in water-color.

In connection with study of plant life the work will naturally be divided into two related parts: (1) observation, (2) experiments to explain that observation: (a) the water relation; (b) the heat relation; (c) the light relation. Each child or group of children will be held responsible for some part of the

work, and a report will become a necessity, as it will be an important part of the whole.

The care of the garden will form a large part of the spring science. The preparation before planting, the planting and weeding, and the individual habits of growth of the different plants, will of necessity be observed, as the active part taken by the children in caring for the plants will require such observations, while the records made will make their observations more definite.

Dramatic reading.—*Rip Van Winkle*, by Washington Irving ; poems of heroism.

Industrial arts.—Clay-modeling, manual training, weaving, painting and drawing, and gardening.

Arithmetic.—Fractions, simple decimals and percentage, and use of the metric system.

SIXTH GRADE.

MARY REED.

History.—During the winter quarter the history study has been the stand for independence made by the American colonies. The story of the Greeks at Marathon, Thermopylæ, and Salamis shows an event of similar meaning in a very different period of history. The study of the Greek wars with the invaders makes necessary a presentation of Greek life as a whole, especially within the cities of Athens and Sparta.

1. The Persian wars: stories of Marathon, Thermopylæ, and Salamis.
2. The training of the Greek warrior; comparison of the education which Sparta and Athens gave their youth; study of Greek games through sculpture; the Olympic games, their preparation, conduct, and rewards.
3. The city of Athens as the best type of civic beauty; the Acropolis; the Parthenon, with special regard to the story of its frieze; a comparison of the early and later sculpture, to show quite simply the growth of artistic skill.
4. Our present-day use of Greek art and its evidences in the fine buildings of Chicago: a comparison of our best public buildings with those of Athens and a consideration of the proposed plan for the beautifying of Chicago.

Geography.—I. In connection with Greek history a study of Eurasia will be begun, Europe being studied in detail and with special reference to the peninsula of Greece.

1. Eurasia: size, shape, topography, drainage, and climate; comparison with North America.
2. Europe: position in relation to the continent as a whole; mountains, plains, and plateaus, and their effect upon climate and cultural development; drainage.

3. Greece: mountains and their influence upon the development of a people; climate; soil and products, and their relation to the limestone formation of the peninsula; coast-line, cities, and people.

II. The study of the region about Chicago which was begun in the autumn quarter will be continued. Field trips proposed are to the ravines at Glencoe, to the swamp at Ninety-first street, to the dunes at Dune Park, and to Stony Island. By means of these trips will be studied the action of rivers, of wind, of the lake, and of glaciers upon the topography of this region.

III. Reading of maps: interpretation of topography through color, and of distance through scales.

Literature.—Andrews, *Ten Boys*; Church, *Three Greek Children and Stories from Herodotus*; selections from *Æschylus*; *The Persians*; Hall, *Four Old Greeks*; White, *Plutarch for Boys and Girls*, Themistocles; Kaufman, *Our Young Folks Plutarch*, Themistocles, Aristides.

English.—Simple renderings of the Greek stories most enjoyed by children, and a possible dramatization of one of them; records of all observations made upon field trips and upon indoor experiments; exercise in composition and spelling based upon the needs shown by the written work.

Home economics.—In their previous cooking lessons the pupils have begun the study of doughs and batters, using air as the means of making them light. Now use will be made of carbon dioxide for lightening doughs: (1) in baking-powder mixtures, such as biscuit and shortcake, studying baking powder and its ingredients, soda and cream of tartar, and identifying the gas as carbon dioxide by the same tests used in the simple chemistry lessons of the winter quarter; (2) in making bread of yeast, in which will be found another method of producing carbon dioxide in the life-process of a microscopic plant. We shall make a study of yeast under the microscope, and a comparison will be made of the fermentation process utilized in bread-making with the fermenting of fruit observed in the lessons of the autumn quarter.

Nature study.—The work of the quarter will be done by the grade as a whole upon the field trips, in the school garden, and by means of various experiments. Special observations in various directions will be made by small committees of children, who will make regular reports to the grade in order to allow of wider range to the work.

I. Field study: (1) Study of the characteristic vegetation of the different topographic areas visited; trees, with special reference to their buds, flowers, and seeds. (2) Birds—their characteristics and habits and the connection between their return and their food supply. (3) Animal life and its relation to plant life; insects and pollination; earthworms and their work. (4) Small area chosen in which to observe the process of plant awakening. Specimens from this area will be transplanted to the schoolroom window-boxes for closer study.

II. Experiments: Germination of seeds under various conditions of

soil, water, and light; the growth, nutrition, transpiration, and respiration of plants.

III. Weather observations, with special reference to the connection between temperature and plant chronology.

Mathematics.—The aim will be to use number in connection with history and geography in every possible way in which it will help to produce clearer images. Nature-study, cooking, and manual training will demand constant use of denominate numbers and call for skill in using both decimal and common fractions. The field work will demand number in such problems as the numerical relation between the plant life in the small selected area and that of given larger areas; using of data of skiameter and common almanac; measuring inaccessible distances; plotting measure to scale; computing the area of circles, triangles, and rectangles in planning for the school garden.

Manual training.—Making of articles for the general use of the grade, such as plant and insect-boxes; articles in hard wood for home use, for which careful mechanical drawings will be made.

French.—For reading, the story of Racine's *Iphigène*, much simplified, will be used. Certain scenes from Racine's tragedy will be dramatized as indicated in the French outline for April. Written dictation and exercise in the forms of verbs will be given as the need is manifest.

German.—The children have acquired a vocabulary which will enable them to talk and read with a fair degree of fluency upon topics relating to school and home. Reading will be emphasized somewhat, the matter including stories from Grimm's *Fairy Tales*, riddles, and German songs.

Art.—Illustrative drawings of Greek games, costumes, and scenes from some historical events, the best of these to be given to the third grade, which is studying the stories of Greece; in connection with geography, painting of landscape typical of the region studied; paintings as records of observations in nature study.

Music.—The reading and writing of music will be continued by means of such songs as Robert Schuman's "Spring Song," Eleanor Smith's "Pussy Willow," Cæsar Cui's "Spring is Coming," and Reinecke's "O, Modest Violet."

SEVENTH GRADE.

ELSIE AMY WYGANT.

History.—The following outline by Miss Rice will be the basis of work in history during the spring quarter:

"The general subject of the year's work is the period of discovery and exploration in American history and the settlement of the West. In the first half of the year especial attention was given to mediæval conditions, to the events that led to the discovery of America, and to the development of the art of printing and of inventions connected with navigation.

"Passing rapidly over the colonial history of the Atlantic seaboard, because of the study of these colonies by earlier grades, we followed the pioneers across the Appalachian highlands into the middle West. The remainder of the year is to be devoted to the industrial development of the United States since the Revolutionary War.

"I. The children will trace the relations of the rivers to the mountain system and discover routes by which the settlers advanced into the interior: (1) Connection of Potomac and Ohio; Braddock's Road; Potomac Navigation Company; Washington's shares in company. (2) Cumberland Gap; story of Daniel Boone and the Wilderness Road. (3) The Hudson with its branch, the Mohawk; compare the Susquehanna and the Delaware.

"II. Movement of settlers: (1) Settlement of Kentucky—the "blue grass" region. (2) The Ohio Land Association; settlement of Marietta; Pittsburg as the "Gateway of the West;" flat-boats on the Ohio. (3) Connecticut Land Company; settlement of Cleveland.

"III. Life in the Northwest Territory: rapid growth of population; government land; a typical settlement.

"IV. Necessity of communication between East and West: trade with New Orleans; steamboat on the Ohio; separation of East and West in sympathy; demands for roads; history of the Cumberland Road; the Erie Canal; rage for canals; political union of East and West secured; the first railroads.

"V. Spread of cotton culture and unification of the South.

"VI. Development of the mining industry and settlement of the far West.

"VII. The factory system of labor; comparison of life of individual worker under this system with that of one under the guild system of the Middle Ages.

"REFERENCES: Sparks, *The Expansion of the American People*; Roosevelt, *The Winning of the West*; Turner, 'The Significance of the Frontier in American History,' *Fifth Yearbook of the National Herbart Society*; Wright, *Industrial Evolution of the United States*; Perkins, *Annals of the West*; Hinsdale, *The Old Northwest*; Winsor, *The Mississippi Basin*; Catherwood, *Story of Tonty and Heroes of the Middle West*; Irving, *Astoria*; Small and Vincent, 'The Family on the Farm,' *Introduction to the Study of Society*."

Literature.—The literature studied in the autumn quarter was Tennyson's "Gareth and Lynette," and other selections on the subject of chivalry. During the winter the children are attempting to read Shakespeare's *Merchant of Venice*. For the spring quarter we have selected some short poems illustrating the idea of pleasure in work, as Longfellow's "Nuremberg" and "Keramos."

The children will be encouraged to bring in poems which they know of nature and spring, and some of the following will be read: Bryant, "Robert of Lincoln;" Wordsworth, "Daffodils," "To the Daisy" (second poem);

Lowell, prelude to *Vision of Sir Launfal*; description of spring from *Biglow Papers*, No. VI; Walt Whitman, "Warble for Lilac Time;" Clara Smith, "Jack in the Pulpit;" Lowell, "The Dandelion."

Geography.—The seventh grade will study North and South America as one land mass, working in detail upon the geography of the United States and trying to trace its effect upon the westward movement in the history of the country. We shall follow the work as outlined by Miss Baber in the *ELEMENTARY SCHOOL TEACHER* for December, 1902, and July, 1901, which for convenience is quoted below:

"North and South America.

"1. Western continent—size; shape; influence of shape upon its cultural development; topography—mountains, plains, plateaus; if American Mediterranean were land, effect upon life-development; if the high ranges of the mountains were on the eastern side of the continent, effect upon life and culture. (1) North America—simple story of the evolution of the continent. (2) South America—location; area; altitude, compare with Africa; physical features: Andes mountains, Guiana highlands, Brazilian highlands, central plain; river basins—Amazon, La Plata, Orinoco, Magdalena, Atrato, Guiana system, Patagonian system; as a system of water highways compare with other continents; climate—temperature, compare with Africa; prevailing winds; rainfall, compare distribution of rainfall with other continents; account for small desert area; native product; distribution of forests, prairies; culture products."

"North America.

"1. Climate: Movement of storms in the United States; distribution of heat; southern limit of winter isotherm of 32°.

"2. Western highlands: Extent, altitude, appearance, and formation of Rocky mountains, Sierra Madre mountains, Sierra Nevada mountains, Coast Range, Mexican Plateau, and Great Basin. Characteristics of river basin found in the western slope of the great highland mass, Colorado, Sacramento, San Joaquin, Columbia, Fraser, Yukon. What attractions for man does this western highland mass possess? What are the influences, both evil and good, of a desert or semi-desert region on the rest of the continent? For agricultural purposes, which is to be preferred, an irrigated region or a region of constant rainfall?

"3. Great central plain: Extent; elevation; winter and summer appearance; glaciated region; account for lakes; non-glaciated region. Characteristics of river basins: Mississippi, Mackenzie, Hudson Bay system. Value of the great plain in the development of the continent.

"4. Eastern highlands: Extent, appearance of (a) Canadian highlands; (b) Appalachian system; New England mountains; Blue Ridge; Appalachian valley; Alleghany plateau; Piedmont. What is the effect of the Piedmont region on the rivers which cross it?

"5. Coastal plain: Extent; appearance; formation; agricultural value.

"6. Past geographies of North America : How are the past aspects of a continent obtained ? What are the evidences that North America has had different coast lines ? What are the evidences that the continent has passed through many changes of climate ? What proofs are there that the topography has changed ?

During the winter quarter the children used sand largely for modeling, though other materials were employed somewhat. During the spring quarter the sand will be used for all quick work, but much more will be done with composite-clay and chalk-modeling. We shall make relief maps of North and South America as one land mass, and North America, South America, and the United States in separate relief maps.

Paintings will be made of typical scenes in the following regions : Brazil, Patagonia, Andes (Chili), Appalachian mountains, Rocky mountains, arid region of the southwestern United States, cotton fields of the South, plains and grain fields of the middle West.

The field work begun in the fall will be continued during the spring in connection with the above work.

Mathematics.— The children began the making of a topographical map during the fall, but were obliged to discontinue the work because of the inclemency of the weather. They chose a neighboring plot of ground, some 300 X 250 feet, upon which they had been making some observations of typical areas. In taking these measurements they learned how to use the compass, plane table, and levels, and how to pace off distances. When the data were brought to the class, the discrepancies were so great that the final map was postponed. It was evident to the children that these inaccuracies were due to lack of skill in handling the instruments, of care in note-taking, and of knowledge of how to transfer angles. The necessary drill on these points took so much time that the second taking of measurements was postponed until spring, but at the first opportunity this work will be completed.

The laying out of the garden will continue this work on surveying, and before the end of the term the children will attempt to make a topographical map of Stony Island—an area familiar through the geographical field work.

Nature study.— The effort in the nature study will be to make this miracle of spring, with more happening every day than one can hope to realize, appeal as most wonderful to the children. Field trips will be taken in early spring, when the first hepaticas are to be found ; again when the fruit trees and violets are in bloom ; and again when the daisies and buttercups are in blossom and the appearance of summer has really come.

During the year the temperature curve has been kept by means of daily observations, and the average for the month has been plotted on a large chart. By watching for the first signs of spring we shall find the average temperature necessary for growth. From that time temperatures of both soil and air will be kept.

Earthworms, pond life, insects, birds, trees, and wild flowers offer possibilities of interest in continued watching and study. Individual children or groups of children will work upon these topics or similar ones, choosing either the topic or the line of investigation on a given topic when such is practicable. Experience suggests that the initiative is sometimes weak in certain children, because of their ignorance of the possibilities of the subject; therefore suggestions and outlines of work will be given; but, if some clearly defined interest and a power to originate a plan of investigation are shown, such independent work will be encouraged. Each topic will be worked out, the needed apparatus described, and a reading list given. Because of the limits of space in this article one topic only will be worked out and references given for the others.

The children who choose the pond life will need an aquarium and a dredge;¹ those who choose insects, a cigar box filled with earth and covered with glass, or a lamp chimney with bulging sides put into a flower pot and the top fitted with netting, an insect net, and a cyanide bottle; the bird committee, the stuffed birds from the museum and a pair of opera glasses; wild flower committee, tin pans for planting any specimens which they choose to bring home; and all committees a pocket magnifying glass. Weekly reports of the work will be made to the class by means of written notes and painted, drawn, or modeled records.

Suggestions for study: Earthworms: (1) When do earthworms first appear? (2) What have they been doing during the previous winter? (3) To what depths do earthworms burrow? (4) Are the burrows straight, or do they wind about? Why? (5) What is the effect of the burrows on the soil? (6) Do the earthworms work better by day or by night? (7) What do they feed upon? (8) How do they get this food? (9) Can you find any eggs of the earthworm?

Apparatus necessary: a pair of scales, some plaster of Paris, a pocket microscope, and an earthworm cage made as follows: inclose a section of soil 22 inches high, 18 inches wide, and 1 inch thick, in a frame; the frame is made of two pieces of glass, 18 × 22 inches, set into grooves on two pieces of wood, 22 inches by 1 ½ inches; cover the top with wire netting and place the whole in a pan partly filled with water; keep a black cloth over the case except during times of observation.

Ways of carrying out the suggestions: (3, 4) Probe into a burrow with a long wire and carefully move the soil away from one side as you work. The shape of the burrow may be preserved by pouring in plaster of Paris. A good specimen for a permanent collection may be made by cutting out the section of soil which shows the burrow after the plaster has been poured into it, pouring into the soil a dilute glue to make it hard, and putting the whole into a case made of glass, with the sides pasted together with glued

¹A very simple dredge is made by cutting out the bottom of a tin dipper and soldering a piece of wire netting in its place.

paper. (5) Count casting on a square foot of soil. Remove and weigh. The following morning repeat the experiment. Estimate on an acre of ground. (6) Repeat the above experiment, weighing every night and morning for several days. (7, 8) Place a given weight of leaves or grass at the top of the case and observe what follows. (9) The earthworm eggs are very minute, but they roll them into a ball about the size of a mustard seed, and these may be found about the opening of the burrows, along in June.

Books which will be helpful: Jackman, *Nature Study*, pp. 303-5; Hodge, *Nature Study and Life*, pp. 424-8; Darwin, *Vegetable Mould and Earthworms*; Bayliss, *In Brook and Bayou*.

REFERENCES: Pond life: Jackman, *Nature Study*, pp. 267, 308, 352; Hodge, *Nature Study and Life*, pp. 277, 297, 411, 431, 432. Making an aquarium and managing it: *Nature Study and Life*, p. 393. Insects: Hodge, *Nature Study and Life*, pp. 45-61, 181-227, 228-72 (this includes references on mounting and preserving insects in three different ways); Comstock, *A Manual for the Study of Insects*; Belle Cragin, *Our Insect Friends and Foes*; Weed, *Life Histories of American Insects*; Jackman, *Nature Study*; McCook, *Tenants of an Old Farm*; Brightwen, *Tenants of My House and Garden*; Beard, *Curious Homes and their Tenants*; Badenoch, *Romance of the Insect World and True Tales of the Insects*; Comstock, *Insect Life*; Lubbock, *Ants, Bees and Wasps*; Packard, *Text-Book of Entomology*, *Entomology for Beginners*, *Guide in Study of Insects*; Evan Bruyssel, *Population of an old Pear Tree*. Birds: Chapman, *Handbook of Birds of Eastern North America*, *Bird Life*; Blanchan, *How to Attract the Birds*, *Bird Neighbors*; Olive Thorne Miller, *Bird Ways, Upon the Treetops*; J. J. Abbott, *Birdland Echoes, Birds about Us*; John Burroughs, *Wake Robin*; Grant, *Our Common Birds, and How to Know Them*; Wright, *Bird Craft, Citizen Bird*; Gentry, *Nests and Birds of United States*. Trees: F. S. Mathews, *Familiar Trees and How to Know Them*; Apgar, *Trees of Northern United States*; Sir John Lubbock, *Flowers, Fruit and Leaves*; Oliver & Kerner, *Natural History of Plants*; Britton & Beacon, *Flora of Northern States and Canada*. Wild flowers: Grant Allen, *The Story of the Plants*; Gray, *School and Field Botany*; Dana, *Wild Flowers and How to Know Them*, *Plants and Their Children*; F. Schuyler Matthews, *Familiar Flowers of Field and Garden*; Darwin, *Elements of Botany*; Macdougall, *Nature and Work of Plants*; Baily, *Talks Afield*.

The committees will work together on the questions of germination and fertilization in connection with the garden. The first consideration will be the needs of germinating seeds found by experiments with varying degrees of heat, light, air, and water. The pushing force of germinating seeds will be measured by the following experiment: In the bottom of a deep tube place a given amount of seeds, as one half pint. Pour water on these, and put into the tube a piston rod resting on the seeds. On the rod place a weight of, say, fifty pounds. As the seeds germinate they will raise the piston and weight.

As soon as the trees begin to bloom we shall make paintings of the blossoms, noting those that are diœcious. The larger blossoms of the fruit trees will aid the work. In other flowers, the lily is a good specimen for

study, because of its very large organs. Note the position of pistil and stamen in the same flower, and in flower clusters; the drooping position of some flowers and the upright position of others.

Home economics.—During the fall quarter it was impossible to carry out the work planned in the study of foods, and in its place an optional class in cooking was formed after school hours. Based upon this experience of the class, six weeks of the winter quarter were devoted to work upon the food principles.

For the coming term work in physiology is planned from the following standpoint: Food is the basis of all animal life. How does the body obtain and use it? Comparison of the ways in which various animal structures are adapted to meet this need. This subject was chosen with the consciousness that it is utterly impossible to teach physiology in three months, and that at this time in child life a knowledge of the structure of the body and an appreciation of the wonder of its mechanism are helpful in creating respect and care for it.

This particular outline of the work was adopted because it seemed to offer a logical sequence in the thinking, and at the same time to give a single problem with which the children were capable of grappling, namely, animals' means of getting and use of food:

1. Obtaining food—senses and muscles. Comparison of the prehensile organs of animals—fish, quadruped, birds, man. The adaptation of a given structure to its environment, especially adaptation of birds. Stuffed specimens in the museum used in tracing this adaptation.

2. Crushing, tearing, or grinding food—teeth. Comparison of the teeth of various animals and their adaptation to the characteristic food of the animal. Examine skulls of cow, sheep, horse, dog, squirrel, and man which are found in the museum.

3. Making food soluble—mouth and digestive organs.

4. Distribution of dissolved food—blood-vessels.

5. Purifying blood—lungs and respiration.

This brings us to a point which we had reached from another standpoint during the winter. The study of air led to finding the lung capacity of each child, the composition of pure air and air exhaled from the lungs, and that carbon dioxide was the product of combustion. The study of the circulation therefore brings us to the same point and emphasizes the interdependence of functions.

EIGHTH GRADE.

KATHARINE M. STILWELL.

History.—As indicated in the previous outlines, the general plan of history work for the year consists of the development of the idea of government. The history of Rome was selected (1) to emphasize civic responsi-

bility, and (2) to show how the Romans solved problems of government similar to the problems which are now awaiting solution by our nation.

At all points of possible contact, comparisons have been made with the government of our country, our local government, and our treatment of colonies. As the functions of the local government have been taught in the preceding grades, the emphasis of attention has here been placed on the structure.

The work in manual training in the autumn quarter, which consisted of making furniture (screens, magazine cabinet, tables, couch, chairs, stools, tabourettes, shirt-waist box, bookcase, etc.), led to a consideration of the Roman house and its furniture. In this subject the interest was enhanced by a stereopticon lecture on the dwelling-houses of the Romans, given to the class by Professor Laing, of the Latin Department of the University, and also by a visit the class made to the Field Columbian Museum. The comparison between our modern house and the Roman house has led to a study of some scientific discoveries and inventions in their relation to the modern house. This study has centralized upon electricity, and other methods of heating and lighting, and the various systems of ventilation and plumbing in use in our homes.

In March (see *ELEMENTARY SCHOOL TEACHER*, February, 1903) the class will compare Rome's government of her provinces with our policy in Hawaii, Cuba, and the Philippines. Some study will be made of these islands, including their history, how they came into our possession, their value to us (their natural resources), and our national responsibility toward them. The necessity for close communication between them and the United States will lead directly into the subject of cables, especially the Pacific cables. The previous study of electricity will add to the interest of this topic, which will consist of a general survey of the cable lines of the world, including the history of the first submarine cable, the first Atlantic cable, the making of a cable, the method of taking soundings, the relation of temperature and the soil of the ocean bed to the cable, the laying of cables, mending them, etc. Information on this subject will be obtained from maps in the *National Geographic Magazine*, Vol. VII, and through articles and pictures in the *Commercial Advertiser* (cable edition, January 3, 1903), a daily paper published at Honolulu, Hawaiian Islands.

The pupils will discuss the effect of the long series of wars upon the social and economic life of the Romans, and, so far as possible, will imagine themselves in Rome, and, making the conditions their own, suggest measures for relief. The similarity between the agrarian troubles and our labor troubles will be brought out in the discussion. They will read the story of the Gracchi and their mother, Cornelia, and, after learning all they can about Marius and Sulla, will compare the efforts these men made at reform with the plans they themselves have already suggested. The biography of Cicero will follow as the typical life of a Roman. His idea of government

will be discussed, and the pupils will try to fit it to existing conditions, thus discovering for themselves the cause of his failure.

They will read of Cæsar, comparing his work as a public officer, a general, a writer, and a dictator. They will then read Shakespeare's *Julius Cæsar* and compare the Cæsar of history with the Cæsar of the play. By the use of clay-modeling, the pupils will express some of their ideas of Roman life. They will model groups of statuary illustrative of characteristic scenes, and tiles in low relief, together with simple objects found in the Roman home.

Latin.—The work in Latin will continue, the class reading simple stories of Roman life.

German (Herr Prokosch).—The reading-matter of the last quarter will be selected mainly from two points of view: (1) to give the children some first-hand knowledge of German history; (2) to make them, in an adequate degree, familiar with the names and principal works of the greatest German authors. Selections from German history, poems by Goethe, Schiller, Uhland, Rückert, *et al.*, will be read and partly memorized.

Nature study.—Gardening will form part of the work in nature study. The bed laid out by the eighth grade last year will be planted, and the vegetables grown will be used by the pupils for their luncheons. In making a study of the manner in which the various plants establish their necessary relations to light, heat, soil, air, and moisture, the pupils will consider the structure of the parts of the plant as determined by their function, and how the structure is modified by the environment of the plant. They will observe the plants in the school garden, at Washington Park, on the prairie, in the marsh (Sixty-first street and Greenwood avenue), and in the pond (Seventy-fifth street and Wentworth avenue). When questions arise which can best be answered by an experiment, the pupils will be encouraged to devise an adequate experiment. Besides the plants, the trees will form a center of study for the remainder of the year. Already the pupils have begun to form a picture of the present life of the tree, and they will compare the forms of various trees and their mode of growth, which involves the position, arrangement, and angles of buds and branches. In a study of the trunk as a center of growth, they will consider its external form in relation to the forces that act upon it, and after determining the function of the various parts of the internal structure, they will try to read the life-history of the tree as indicated by the growth of these parts. The drawings and paintings which will form a part of this record will show the forms of trees, the growth of twigs, and the appearance of cross, radial, and tangential sections of wood.

Early in March the pupils will begin to watch for birds and to make a natural-history calendar, containing the date, description, name, food, habits, etc., of the various birds as they appear. These birds, and the birds that have been with us through the winter, will be studied in relation to their food

supply. The class will consider the simultaneous appearance of the earthworm and the robin, the stage of growth of the larvæ at the time of the warblers' arrival, and the effect of this timely arrival upon the trees. The special modifications of bills, feet, wings, or tail, and the relation of this to the bird's manner of securing its food, will be illustrated by drawings or paintings.

Some attention will be paid to the earthworm, the pupils noting when and where it works and the results of its work. By observations, the children will acquaint themselves with the habits of the animal, its food, movements, habitual position of body, shape and appearance of burrows, depth of burrows, and the forces of earth and air it must meet in its environment. They will also make a close study of the worm through the microscope, noting the shape of the body, the muscles, spines, respiratory surface, eyes, skeleton, etc. From this they will determine the relation of function to form. They will read the results of Darwin's observations on this subject and discuss the effect of the earthworm upon the soil. The class will make paintings or drawings of the earthworm, and mold to show bulk of castings on a given area.

Insect life found in the garden and in the park will be observed. A record will be kept of the time and place of appearance, the food, the injuries made by the insect to trees and garden plants, the place of depositing eggs, and the relation of this to the food supply, the means of defense (color relation), and the homes of insects. Each pupil will be supplied with a lens for use in the field, and compound microscopes will be used in the classroom.

Records of the observations in nature-study will be kept in writing or in painting, and an attempt will be made to have a complete story told. Because the best results in this subject come from continued observations growing out of the spontaneity of the pupils, set lessons on the subject will not be assigned, but the work will be carried on in committees, each pupil, so far as possible, being allowed to choose his particular line of investigation. In order to keep every child in touch with the whole work, the committees will report at regular intervals. Jackman's *Nature Study in the Grammar Grades* will be used as a manual.

An inquiry into the causes of the phenomena will establish the unity of the various phases of the observational work. This will necessitate a more or less systematic study of seasonal changes as dependent on the annual motion of the sun. Enough of such study will be given to make the unity and bearing of the work clear to the pupils.

Mathematics.—The mathematical work will comprise the algebra which grows easily out of the arithmetic, and will be of the nature of a review and emphasizing of the fundamental principles of the arithmetic. Graphical representation of data will receive attention. It is believed that this work will

lay a broad and sound foundation for the work of the secondary school, while it will fix the arithmetical processes upon the mind of the pupil and render their application flexible. The algebra will be closely correlated with such concrete or experimental geometry as will reinforce the algebra by clarifying and sharpening algebraic concepts.

BOOK REVIEWS.

A Text-Book of Applied English Grammar. By EDWIN HERBERT LEWIS, PH.D., Professor of English in the Lewis Institute, Chicago. New York: The Macmillan Co., 1902. Pp. xvi + 363.

It may be doubted whether the dry bones of English grammar ever received such a beneficent shaking up as they have experienced in this book. English speech is discussed in a vital and attractive way, and new terms are often suggested as more helpful than those to which tradition has accustomed us. "The writer believes that a little technical grammar, sympathetically taught, is within the normal powers and interests of grammar-school students" (p. viii). The style of the little book is easy, fresh, and interesting. A colloquial tone seems to say at every step, "Come on, boys!"

A curse that has rested upon the teaching of English grammar in the past has been the forcing of the conceptions of Latin grammar upon the facts of present English usage. In reading the present book, the reviewer has rejoiced "to see the curse removed."

The teaching of grammar is connected at every point with composition, and especially with punctuation. As here presented, punctuation and grammar throw light upon each other.

The following specimen passages will appeal to those who have suffered many things of many grammarians:

"The verb makes the speaker responsible. If we say *the boy*, we utter merely a name. But the minute we add a verb to the name, as in *The boy lies*, we are held responsible for a statement" (p. 169).

"No system of nomenclature is half so important as the teacher's own extemporaneous terms, springing from that play of mind which is essential in all good teaching. It is only to be remembered that a sentence is a living thing, and that all analysis is, in a way, an insult to it" (note to the teacher, p. 185).

"The colon usually precedes a list. In force it is somewhat like the sign of equality (=)" (p. 268).

"The comma is the sign of incompleteness. It is used within the sentence. It shows what words are to be taken together. It is the group-maker" (p. 269).

"A *regular* relative clause shows what person or thing is being spoken of. Do not punctuate it at all. An *extra* relative clause adds extra information about something already understood. Set it off by a comma or commas to show that it is extra" (p. 275).

"In early times English had many inflections, whereas now it has but few. Our forefathers used nine forms of the word *glad*; . . . our later ancestors discovered that one form would serve as well as many. Savage races still delight in unnecessary inflections. . . . The chief ideas now expressed by English inflection are seven: number, person, time, comparison, ownership, the subject-relation, and the object-relation. No one word contains all these ideas" (pp. 284, 285).

On p. 321 we have the excellent rule that "a verb must not *disagree* with its sub-

ject in number and person." To this is appended the following note to the teacher: "If *agree* means to vary form, then the assertion that English verbs agree with their subjects is more than doubtful. Until there is some consensus among scientific grammarians as to what 'agreement,' 'mood,' 'tense,' and 'case' shall mean in the grammar of uninflected languages, the best we can do is to avoid these mysterious words as much as possible."

It is almost illegal to pack so much common-sense into a single sentence as is contained in the last one quoted. But alas! this same p. 321 shows us the following unexpected relic of the traditional "make-believe" grammar: "The present and past forms, as *call*, *called*, may for convenience be regarded as singular or plural verbs according as the subject is singular or plural. And a plural subject must have a plural verb."

The phrase *assuming adjective* is a happy substitute for *attributive adjective*. But why not also say *asserting* instead of *predicate adjective*? *Assuming* and *asserting* almost seem to have been foreordained from before the foundation of the world for this use.

By distinguishing what he calls *the pure future*, *the compliant future*, and *the determined future*, Professor Lewis sets forth clearly and helpfully the uses of *shall* and *will*; and the contracted colloquial forms receive full recognition. The treatment of mood (pp. 342-5) is masterly.

The reviewer will interpose a question or an objection at a few points. The use of *owing*, *considering*, and *judging*, illustrated on p. 221 by such sentences as "*Considering everything, it seems best to go ahead,*" is left quite unexplained. Has not the word *considering* here come to be used as a preposition, and should it not be so named? Pupils should hardly be asked to compose ordinary colloquial sentences with "awful or awfully" (p. 235). The possessives *a half a mile's walk* (p. 294) and *the antecedent's number* (p. 323) seem hardly in accord with the best usage.

The first main division of the grammar, pp. 1-77, takes up the common mistakes in the use of verbs, pronouns, etc. In thus beginning Professor Lewis is true to his conviction that "elementary correctness in oral usage should be the first result aimed at in teaching grammar to children" (p. vi). It is unfair to the book, however, that the first impression of it should be given by this somewhat dry matter. Anyone who thinks that grammar is of necessity a dry subject has only to read the remainder of this spicy little manual, beginning at p. 81, to be convinced of his mistake. Success to this breezy, rational text-book!

ALBERT H. TOLMAN.

DEPARTMENT OF ENGLISH,
University of Chicago.

EDITORIAL.

MODES OF EXPRESSION AS EDUCATIONAL AGENCIES.

It has not been so long since the sugar-loaf, pear, and egg shapes were quite commonly looked upon as furnishing the ideal forms into which the ornamental shrubbery and evergreens of our dooryards were to be trimmed. Those were the merry, go-as-you-please days when all lived near to nature's heart and before the artificialities of modern congested population centers were matters of serious concern to us. The very commonness of natural forms and phenomena cheapened them, and artificial manifestations therefore possessed the relish of a pleasing diversion from nature's humdrum. Hand-made symmetry and rotundity were orthodoxy in landscape gardening, and naturalness was stigmatized as "faddism," "frillism," or "fogysm;" for in the common mind these terms have always stood, as they stand today, for an indiscriminating aversion to notions which differ from the commonality of views. In short, this was the period when the function of the landscape gardener was to prune and lop off.

But the last twenty years have witnessed both the introduction into and partial elimination from education of many pernicious and powerful artificializing influences. Apparently unmindful of the fundamental fact that the life-work of everyone whose life is worth while is a continual struggle to adjust himself to natural forces and conditions, we school-men had gone on raising artificial barriers to this adjustment until we called down upon our heads the criticism that a school is an institution which most quickly unfits a man for life. Our educational efforts were guided by sugar-loaf ideals of average attainment, and our implements were the pruning hook and knife. During this period repression and suppression were the watchwords of teaching practice, and *expression* was under the pedagogical frown. At last we awoke to a realizing sense of the fact that we had lost the individual entirely in our struggle to attain and preserve the general, and that our mass-teaching was educating only a man of straw. But thanks to the fearless persistence of a few bold students of education, whose sympathy for their kind is still warm, we are at last getting pretty well away from the conception of education as a pruning process. The wholesome philosophy of George Eliot that men are like trees—if you lop off their finest branches, into which they are pouring their young life-juice, the wound will be healed over with some old excrescence; and what might have been a grand tree expanding into liberal shade is but a whimsical, misshapen trunk—is powerfully penetrating the educational thought of our time. Under the pruning-process con-

ception of education we had only too many opportunities to learn how completely out of joint the whole world seems to him whose individual desires and cravings are continually thwarted or suppressed.

But the necessary accompaniment of repression in teaching is verbal reproduction on the learner's part of the thoughts of another. The latter is, in fact, but the reverse aspect of the former. Even the primitive teacher must test from time to time the results of his teachings upon his pupil; the pupil dares not be natural, lest he subject himself to the inevitable knife, and as a consequence he must respond in the words of another. The pupil then retired into himself, and external agencies were needed to "draw him out." In due course we learned that external stimuli administered by the teacher defeated their own purpose; that the young pupil could no more be made to put forth his educational antennæ by nagging him than a snail can be made to put forth its horns by pricking them.

Happily for all lovers of humanity and human progress, most of these obstacles to education are passing away, and few indeed are they who would retard their passing. It is not mere empty optimism to see in the present situation the promise of the early dawning of a new day for education. The prolific brood of past pedagogical errors were nearly all begotten of the notion that education is an illumination of soul coming from a light whose source is without the individual. Learning was then regarded as a process of opening up the avenues to the soul through which this external illumination might enter. But we are now rapidly coming to the view that the source of the illumination is within and that learning consists in *opening out* ways through which the "imprisoned splendor" may escape. This conception exalts the function of expression in education and makes the individual pupil the object of paramount concern to the teacher.

But there are not wanting those who profess to see grave dangers in this elevation of the individual. Still, while there have been misfits in various stages of the educational scheme, most of them can be ascribed to the poorly articulated members of the organism. For example, a pupil who has been brought up in an elementary school which respects the pupil's individuality may find difficulty in adjusting himself to a high-school régime in which teaching the *average pupil* is the keynote. Moreover, teachers are possessed of an inordinate fear that pupils of strong individuality are failing to recognize duly their relation to the whole of which they are but a small part. The teacher's dread of priggishness and perversity is, however, nearly always theoretical and always immoderate. If he could but keep clearly before him that nine-tenths of the world's work is done by these strong personalities, and that those pupils whose deportment most delights their teacher's heart too often become the men and women who soon find their obscure niches in the dead level of mediocrity and disappear forever from the notice of any save those few friends whose paths cross the narrow circle of their activities, bounded by the circumference of mere bread-winning, he would easily exer-

cise a larger measure of tolerance without fear of lowering in the least the dignity of his office.

The test of all educational factors and systems is ever the same. It is neither knowledge nor ability to acquire knowledge, but power to use knowledge. The efficiency of a man is determined ultimately by the measure of his ability to mass and converge his experiences and inferences from them upon destined ends. The value of the man to his time depends upon the extent to which these ends serve to promote human welfare. Knowledge is the weapon, but the weapon may be worse than worthless without the power to use it. Hence the importance of expression in the training of children; for through the means of expression alone is it possible for the individual either to acquire knowledge or to test his power to use it.

The function of expression in education has always received considerable attention in elementary teaching, but attention has hitherto been given too exclusively to one sort of expression. We now find that spoken and written language are but *two* of the important agencies through which the pupil may communicate his thoughts and feelings to others. Painting, drawing, modeling, molding, cooking, manual training, dramatic art, and number work are modes of expression common to all children, while for many one or more of these commonly neglected modes often serve the immediate purposes of elementary education far more adequately than does either verbal or written language. When these diverse modes of expression find their natural places in the curriculum, they constitute an organic unity of agencies through which the surging energies of the pupil's innermost life may find vent. They furnish us also an instrumentality of education flexible enough to provide for the peculiar aptitudes of everyone. Backed by the store of thought-content of the enriched curriculum, the elementary school is in possession of the machinery for realizing Professor Dewey's ideal of elementary education, viz., "to organize the instincts and impulses of children into working interests and tools."

The faculty of the elementary school of the School of Education does not claim either novelty or originality for these ideas *in theory*; but it does claim to be making a concerted and persistent objective study of the practical problem of finding ways and means of reducing these theories to terms of practice and to be making a united and, they feel, substantially successful attempt to practice them throughout the school. Several years of successful effort in this direction on the part of a good majority of the faculty both before and since uniting with the University of Chicago encourages the confident belief that many of the unsolved problems still outstanding will in due time yield under the more favorable conditions brought about by connection with the University.

G. W. MYERS.

BOOKS RECEIVED.

- Le pays de France.* Par Pierre Foncin. Edited for School Use by Antoine Muzzarelli. New York: American Book Co., 1902. Pp. 257, 12mo; cloth.
- Le tour de la France.* Par G. Bruno. Edited for School Use by L. C. Lyons. New York: American Book Co., 1902. Pp. 241, 12mo; cloth.
- Stories of Humble Friends.* By Katharine Pyle. New York: American Book Co., 1902. Pp. 197, 12mo; cloth.
- Studies in Zoology.* An Introduction to the Study of Animals for Secondary Schools and Academies. By James A. Merrill. New York: American Book Co., 1902. Pp. 232, 12mo; cloth.
- Nature and the Camera:* How to Photograph Live Birds and their Nests; Animals, Wild and Tame; Reptiles; Insects; Fish and Other Aquatic Forms; Flowers, Trees, and Fungi. By A. Radclyffe Dugmore. New York: Doubleday, Page & Co., 1902. Pp. 126, 12mo; cloth.
- Grammar School Algebra:* An Introduction to Algebra for Beginners. By Emerson E. White. New York: American Book Co., 1902. Pp. 96, 12mo; cloth.
- The Story of the Empire State:* History of New York Told in Story Form; a Supplementary Reading-Book for Grammar Grades. By Gertrude Van Duyn Southworth. New York: Appleton, 1902. Pp. 213, 12mo; cloth.
- Shakespeare's Merchant of Venice.* Edited, with an Introduction and Notes, by Richard Jones and Franklin T. Baker. New York: Appleton, 1903. Pp. 174, 12mo; cloth.
- Essentials in Ancient History.* By Arthur Mayer Wolfson. New York: American Book Co., 1902. Pp. 528, 12mo; cloth.
- School Composition for Use in Higher Grammar Classes.* By William H. Maxwell and Emma L. Johnston. New York: American Book Co., 1902. Pp. 224, 12mo; cloth.
- Lessing's Nathan der Weise.* With Introduction, Notes and an Appendix of Parallel Passages. By Tobias J. C. Diekhoff. New York: American Book Co., 1902. Pp. 368, 12mo; cloth.
- Advanced Algebra.* By William J. Milne. New York: American Book Co., 1902. Pp. 608, 12mo; cloth.
- Stories of Old France.* By Leila Webster Pitman. New York: American Book Co., 1902. Pp. 312, 12mo; cloth.

THE Thinking Man's TONIC

Preachers, students, bankers, brokers, literary workers, reporters, editorial writers, accountants, actors and persons of intense mental concentration, can strengthen their whole system, and greatly increase their capacity for mental and physical labor, by the use of

Horsford's Acid Phosphate

Horsford's name on every GENUINE package.

FRAGRANT

SOZODONT

A perfect Dentifrice for the

Teeth and Mouth

SOZODONT LIQUID . . . 25c
SOZODONT TOOTH POWDER . . . 25c
Large LIQUID and POWDER . . . 75c **25^c**

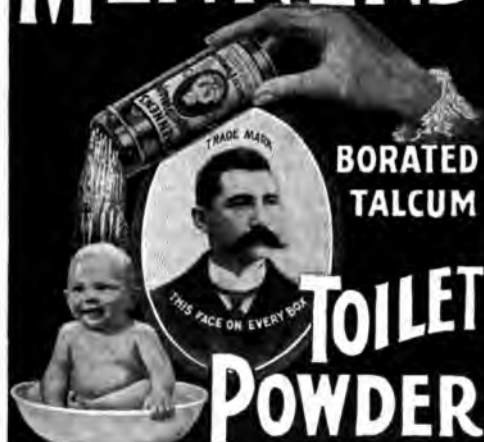
A dentist writes:

"As an antiseptic and hygienic mouthwash, and for the care and preservation of the teeth and gums, I cordially recommend Sozodont. I consider it the ideal dentifrice for children's use."

SOZODONT is sold at the stores, or it will be sent by mail for the price. Mention this Magazine.

HALL & RUCKEL, New York.

MENNEN'S



Delightful After Bathing, A Luxury After Shaving

A positive relief for Chapped Hands, Chafing, and all afflictions of the skin. Removes all odor of perspiration. Get Mennen's (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25 Cents.

Sample free. GERHARD MENNEN CO., Newark, N. J.



Impure air and sickness are caused by OIL and GAS Stoves, faulty furnaces, and dry steam heat. In every living room keep an open vessel containing water and

Platt's Chlorides.

The Odorless Disinfectant

Pabst Malt Extract

The "Best" Tonic

When the bleak winds of spring come at you, with their searching damp and sudden chill—

Keep Up Your Vitality

You need it more then, than at any time during the year and this is easily and pleasantly done by taking a glass of

Pabst Malt Extract

The "Best" Tonic

at meals, at bedtime and whenever fatigued.

Vitality is strengthened, not by stimulation, but because Pabst Extract feeds and repairs the system, awakening worn-out functions to their old activities, and so supplying the powers of resistance so necessary in the trying spring months.

Thousands of people keep well the year round by taking a glass of Pabst Extract every night before retiring. It's a great health saving plan. Why not adopt it?

Pabst Extract is sold and recommended by leading druggists everywhere.





Perfect Power Service First (right) Second

"Of all inventions, the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species."—MACAULEY

PERFECTION IN TRANSPORTATION
IS FURNISHED BY THE
CHICAGO & ALTON RAILWAY

The heaviest steel rails, laid on a roadbed of crushed rock, make its tracks the smoothest. Over this dustless highway are run the most palatial trains in the world—the acme of luxury and comfort.

AMERICA'S MOST POPULAR RAILWAY—JUSTLY TERMED "THE ONLY WAY"
BETWEEN
Chicago, St. Louis, Kansas City and Peoria.
GEO. J. CHARLTON, Gen. Pas. Agt., Chicago, Ill.



Tints rather than colors, subdued effects rather than pronounced contrasts—these are what constitute the charm of stained shingles, and make even the low-cost house a thing of beauty. No house, no matter how cheap or ordinary in architecture, can justly be regarded as commonplace if the shingles are stained to match the woodwork or general color tone of the building.

SHINGLETINT is a scientific combination of linseed oil, coloring matter, creosote oils, and the necessary drying agents, and its use produces the most artistic and durable color-effects known on shingles.

STAINED WOODS AND DESCRIPTIVE LITERATURE SENT FREE UPON APPLICATION.

BERRY BROTHERS, Limited,
Varnish Manufacturers,

NEW YORK PHILADELPHIA CHICAGO ST. LOUIS
BOSTON BALTIMORE CINCINNATI SAN FRANCISCO
Factory and Main Office, DETROIT.

ONLY ONE NIGHT TO FLORIDA

In addition to its regular morning and evening train service for all points south, commencing January 5th, the "Big Four Route" will run Pullman drawing-room sleeper on its 1:00 P.M. train, daily except Sunday, Chicago to St. Augustine, Florida, via Indianapolis, Cincinnati, Atlanta, Macon and Jacksonville, less than 32 hours enroute. This train is known as the "Chicago and Florida Special" and is strictly up to the 20th century mark.

Call on agents for rates and tickets via "Big Four-Q & C Route," or address
J. C. TUCKER
Gen'l Northern Agent
234 Clark St., Chicago, Ill.

THE BATTLE CREEK SANITARIUM FOOD IDEA
IS THE HEALTH FOOD IDEA OF TODAY

WE ARE THE ORIGINATORS

REAL
Health Foods
Not Poor Imitations

ARE SOLD BY

THE BATTLE CREEK SANITARIUM CO., LTD.

Why buy imitations when REAL Health Foods cost no more?

"Foods which will make ill folks well will prevent well folks from becoming ill."

CUT HERE

A Brochure on The Battle Creek Sanitarium Food Idea will be mailed FREE to those who sign the Coupon, tear it out and mail to us.

Gentlemen:
Please mail to me without charge, Brochure on The Battle Creek Sanitarium Food Idea.

Name _____

Town _____

State _____

THE BATTLE CREEK SANITARIUM CO., LTD.
DEPT. I. BATTLE CREEK, MICHIGAN

A LITERARY LANDMARK

The Smith Premier Typewriter is used exclusively for cataloging & indexing purposes in the great Carnegie Library at Pittsburg, Pa.

Schenley Park
Pittsburg, Pa.



THE SMITH PREMIER TYPEWRITER CO.
SYRACUSE, N.Y. U.S.A.

THE BEST
SEND FOR CATALOGUE

FIFTY
STYLES



PAUL E. WIRT
FOUNTAIN PEN
ALL DEALERS
OR ADDRESS BLOOMSBURG, PA.

WHY not use a clean Fountain Pen, one that will write and write always, without skipping, blotting, or scratching?

The above Fountain Pen is and has been sold on its merits all over the world for sixteen years, and is unconditionally guaranteed.



THE EARLIEST
HAMMOND
DOES BETTER WORK
THAN THE NEWEST
MACHINE OF ANY
OTHER MAKE

The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

The only polyglot using on the same machine, one hundred type shuttles, in twenty-six languages, instantly interchangeable.

An indestructible machine. Will last generations and outlive ten type-bar machines. Writes like print—prints like writing.

The best manifold. The one machine producing perfect and permanent alignment with uniform impression.



The Hammond
Typewriter
Company

69th to 70th Street, East River
New York, N. Y.



"THE NAME IS EVERYTHING."

Esterbrook

on a pen is an absolute
guarantee of its excellence

Double elastic No. 135.
Specially easy writing.
A general favorite.
Over 150 varieties of
other styles to suit
every purpose. All
stationers have them.
Accept no substitute.



THE ESTERBROOK STEEL PEN CO.
Works, Camden, N. J. 26 John Street, N. Y.



Operators of writing machines, especially skilled operators, prefer the REMINGTON, and for very good reasons.

The Best Results

In the Amount and Quality of work done, and the Ease and Speed with which it is done, are attained only through the use of the

Remington Typewriter

REMINGTON TYPEWRITER COMPANY
327 Broadway. New York.

HANGING ON TO
A GOOD THING



It pays to stick to
a good thing when
you find it. That
is why it will pay
you to use

Dixon's
American
Graphite
Pencils

in your schools, your homes, or in your business, in preference to any others. They are the most economical because they last the longest. They make a good clean see-able mark. Tell us the position you hold in the educational, literary, or scientific world, mention this paper, and you will receive samples that will surprise you.

JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.

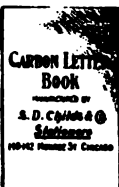
Densmore Does More



**Ask
About It**

**Densmore Typewriter
Company**

309 Broadway, New York



Copy Your Letter While You Write

BY USING THE

CARBON LETTER TAB

Letter Copying Made Cheaper, Cleaner, and More Convenient

100 Letters and 100 Copies in Each Book. Bound in Board Covers with Carbon, Ready for Use

Letter Size (8½ x 11), Ruled or Plain \$0.75
 Note Size (6 x 9½), Ruled or Plain50

Sent postpaid on receipt of price

S. D. CHILDS & CO.
 Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

In All Kinds of Weather

Use the
Middle Joint Modern Fountain Pen

one of many forms made and guaranteed by

W. A. Waterman & Co.
 Dept. G.
 22 Thames Street
 New York



Ask for Catalog F

Insert your letter—turn

the crank—and your copy's made. No wet cloths to handle—no damp blotters to arrange—no screwing down letter-press.

It stands always ready. The pressure of the copying-rollers is always the same. Never a blurred letter, nor an indistinct copy.

Every copy clean and perfect—no faint copies to guess at. Copies made on the RAPID ROLLER LETTER COPIER can be filed right with the letters received.

Send for Cat. 3303

Yawman & Erbe Mfg. Co.,
 Rochester, N. Y.

Branches in N. Y., Phila., Boston, Chi., San F., and seven other cities.



R. R. Donnelley & Sons Co.

The Lakeside Press

PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES, AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.



The Most Fashionable Perfume

You will not find it in every store.
It is not used by everybody.
Sold at the best stores only.
Used by refined people only.

EAU DE COLOGNE

Johann Maria Farina

Sternengasse 9-11 in Köln.



Queen Alexandra says:

There is something fascinating about users of 9-11 Cologne. It is certainly the most delicious perfume; it invigorates and refreshes.

INSIST on 9-11 Cologne and TAKE NO OTHER.

Import office, 1-3 Ann Street, New York.

"AFTER ALL **CARTER'S INK** IS THE BEST"



An Old Bookkeeper is Discriminating

Better take his advice and use CARTER'S
Send for booklet "Inklings"—Free

THE CARTER'S INK CO. - BOSTON, MASS.

**RIDE A COCKHORSE TO BANBURY CROSS.
TO SEE A FINE LADY UPON A WHITE HORSE,
RINGS ON HER FINGERS, AND BELLS ON HER TOES.
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."**



SO SINGS THE FOND MOTHER IN NURSERY RHYME
TO HER GLAD INFANT, THE WHILE KEEPING TIME,
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.
THROUGH
MRS. WINSLOW'S SOOTHING SYRUP
OVER FIFTY YEARS SOLD
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

**To the Land of
Fruits and Flowers**

FLORIDA

*Through Sleepers every night,
leaving Dearborn Station, 9:00 p.m.*

via
**MONON ROUTE
and C. H. & D. RY.**

Passing thro' the beautiful Cumberland mountain region by daylight,
and arriving at St. Augustine at a
convenient hour in the morning

**CITY TICKET OFFICE
232 CLARK STREET
C H I C A G O**

Jaeger
PURE WOOL UNDERWEAR

Protects
Against
Temperature Changes.

**The Standard Sanitary
Underwear for Men, Women
and Children.**

Endorsed by Leading Physicians.

Also various JAEGER Novelties and
Specialties.

Don't forget that the Best is the Cheap-
est and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

**SUFFERERS FROM
DYSPEPSIA AND OTHER
STOMACH TROUBLES**

Can Find Quick Relief by Using

Glycozone

an absolutely harmless germicide.
It subdues the inflammation of the
mucous membrane of the stomach,
thus removing the cause of the disease,
and effects a cure.

For any stomach trouble it will do
good and generally cure.

Used and recommended by leading
physicians.

Sold by leading druggists.

FREE I will send by mail on receipt of
20c., to cover actual postage, a
liberal sample, that will prove the claims I
make to your entire satisfaction. This prepara-
tion cannot harm you, and in most cases gives
wonderful results. Address

Prof. Charles Harchant

59 W. Prince St.,

New York.



All over the civilized world
THE IMPROVED
**BOSTON
GARTER**
IS KNOWN AND WORN
Every Pair Warranted
The Name is
stamped on every
loop—
The *Velvet Grip*
CUSHION
BUTTON
CLASP
Lies flat to the leg—never
Slips, Tears nor Unfastens
ALWAYS EASY
Send
50c. for Silk,
25c. for Cotton,
Sample Pair.
GEO. FROST CO., Makers,
Boston, Mass., U. S. A.
REFUSE ALL SUBSTITUTES

WABASH

New Short Line
BETWEEN
CHICAGO AND TOLEDO
THROUGH PULLMAN SERVICE
FREE RECLINING CHAIR CARS
ON
ALL WABASH TRAINS
C. S. CRANE F. A. PALMER
G. P. & T. AGENT A. G. P. AGENT
ST. LOUIS CHICAGO

No Member of your Family
should be without an Individual Stick of



PURE
COCOA
BUTTER

(10¢ POCKET TINS.)

Relieves Colds, Rough Skin,
Bruises, Soreness &c

ALL DRUGGISTS,

OR BY MAIL
ON RECEIPT OF PRICE
IN SILVER OR STAMPS.

Nuyler's
863 BROADWAY, N.Y.

LIEBIG
COMPANY'S
EXTRACT
OF BEEF



PERFECTION



SELF-
CLEANING
AND
FILLING;
DOES
NOT
DROP
INK.

FOR SALE AT
THE EXCLUSIVE PEN STORE
96 STATE STREET, (STEWART BUILDING) CHICAGO
MABIE, TODD & BARD

Humorous and Serious

LITTLE imagination is required to believe The Angelus human. It has its humorous side too, in the contrasts it brings to each owner. Here are the first and later orders of two men who are members of the Angelus Music Library. Each member has his choice among thousands of compositions and each can change his music every month.



First Man

who likes popular music, ordered:

- 4 Waltzes
- 4 Marches
- 3 National Airs
- 5 Operatic Selections
- 4 Old Songs
- 4 Coon Songs

One Year Later

he ordered:

- 4 From Wagner
- 4 From Beethoven
- 4 From Liszt
- 1 From Handel
- 4 From Chopin
- 1 From Bizet
- 6 Popular Airs

The first man keenly enjoys symphonies and sonatas, the very names of which were formerly unknown to him. The other man, who ordered some "stuff" in order to please his children and friends from time to time, now appreciates the fun and swing of jolly music when it is properly played. The Angelus has added capacity for enjoyment to each of these music lovers.

Second Man

who has studied music, ordered:

Twenty-four rolls, including choicest selections from Bach, Beethoven, Haydn, Chopin, Schumann, Mozart, Mendelssohn and Wagner.

One Year Later

he ordered:

Ten favorites from his time-honored old composers and fourteen of the latest popular selections in the library collection.

THE ANGELUS EXPRESSION DEVICES

WHILE the beginner is satisfied at first with merely a loud and soft pedal attachment, he quickly understands the expression devices which are found only on The Angelus, and by means of which the performer subdues treble or bass, accents a note or phrase, retards or accelerates a passage without changing the tempo indicator.

Every Angelus music roll is so simply but completely marked that the novice can see at a glance how to play with correct time and expression.

The best music stores will gladly show The Angelus and we will mail handsome booklet free.

THE WILCOX & WHITE CO.

Main Offices and Factory.

MERIDEN, CONN., U. S. A.

CROWN PIANOS

Noble in Tone

Chaste in Appearance

Durability Unquestioned

GEO. P. BENT
Manufacturer Chicago



ORCHESTRA

Instruments, Violins, Flutes, Mandoline, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalogue. Illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.

The World's Largest Music House. Sells "Everything Known in Music."

PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Storlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent instrument at \$250, \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music"



Rare Old Violins

Largest and finest collection on this continent. Fine catalogue free containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.

As the mother rocks the cradle, love transforms it to a kind of loom whereon her fond fancy weaves a bright-colored future for her child. As the child grows the wise mother feeds his mind with precepts of integrity and industry; his brain and body with all-nourishing food in order that he may be strong for life's battle and find an honored place with men.

SHREDDED WHEAT BISCUIT

is the Natural Food—the food whose each integral part has an exact counterpart in the human body—the food that builds the perfect whole because it builds the perfect parts. **The perfect food to perfect man. SHREDDED**

WHOLE WHEAT BISCUIT is more porous than any other food—that means more digestible. It is quickly transformed into rich blood, firm flesh, hardy muscles and an active brain. **Sold by all grocers.**

Send for "The Vital Question" (Cook Book, illustrated in colors) **FREE.** Address

THE NATURAL FOOD CO., NIAGARA FALLS, N. Y.



Library Smoking Cars

WE have them on all of our fast trains out of Chicago. Buffet, writing desk, card tables, easy chairs, all the periodicals, everything to make one comfortable.

We publish two books, "Colorado" and "California," 72 pages. Informative, beautifully illustrated, and with good maps. They are really works of art. Price six cents each in postage. Send for them *to-day* while you think of it.

Burlington Route

OUR 8200 miles of railroad reach out from Chicago, Peoria and St. Louis to all the important cities in the west and north-west such as

**ST. PAUL
MINNEAPOLIS
OMAHA
KANSAS CITY
DENVER**

If you are going to any of these places or to the Pacific coast, kindly let me send you time tables and other information about our train service.

P. S. EUSTIS,
Pass. Traf. Mgr., C. B. & Q. R. R.
CHICAGO, ILL.

The Summer Quarter of The University of Chicago

*Affords special opportunity for
study in all Schools and Colleges*

THE FIRST TERM, JUNE 17TH TO JULY 24TH
THE SECOND TERM, JULY 25TH TO SEPTEMBER 3D

Instruction will be given in 1903 in

The Colleges of Arts, of Literature, of Science, of
Commerce and Administration

The Graduate School of Arts and Literature

The Ogden Graduate School of Science

The Law School

The School of Medicine

The Divinity School

The School of Education

A circular of information will be sent on application to

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

The Burpee Quality in Seeds

Best that can be Grown! The new "Silent Salesman" of

the largest mail-order seed trade in the world will be pleased to call with 184 pages of useful information and hundreds of true illustrations,—if you will mail a postal to

W. Atlee Burpee & Co., SEED FARMERS, Philadelphia

THOROUGH BIBLE INSTRUCTION AT HOME

**Under the Instruction of Teachers in
the Highest Institutions of the Country**

Courses of reading and study embracing all grades
from the Elementary to the Professional
TEN THOUSAND STUDENTS AT WORK

Address for new and complete calendar of announcements

The American Institute of Sacred Literature

HYDE PARK, CHICAGO, ILLINOIS

SEW THIS *****
DEVICE
IN YOUR
COAT
SLEEVE

PAT. DEC. 3, 1895.

Put an ordinary collar button in the rear or center button hole of the cuff, slide it into the front circular opening, — push it back to regulate the Cuff—an inch or two or simply a white edge can be shown.

THE CUFF WILL STAY WHERE YOU PUT IT.

You take your coat off and hang it up, the Cuffs will require no attention until they need laundering. One pair for every coat you own and happiness will be yours for a dime. Price 10cts. a pair or 50cts. for 6 pairs, by mail, postpaid. Address,

WOODMAN CO., Box 2872, Boston, Mass.

EARL CUFF BUTTONER

PUTS CUFF BUTTONS INTO CUFFS

STERLING SILVER 50¢

WITHOUT TROUBLE

SENT ON RECEIPT OF PRICE STAMPS ACCEPTED

ALPHA MFG. CO.
151-MILK ST BOSTON MASS.

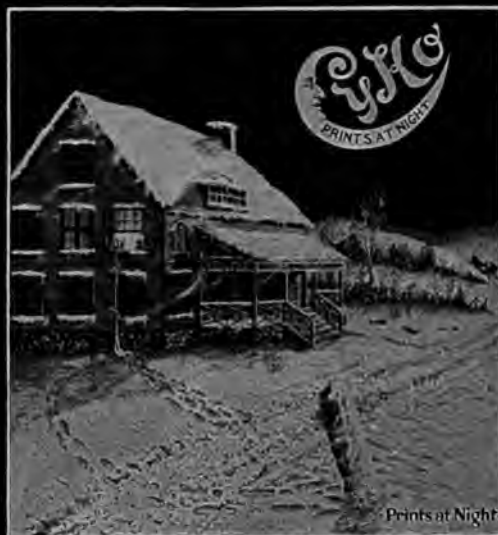
SAVES TIME AND BOOTHER

NICKEL 10 CENTS

CARRIED IN VEST POCKET

GREAT CONVENIENCE

USEFUL PRACTICAL



CYKO

**A NIGHT
PRINTING
PAPER**

No Dark Room Required

Makes Beautiful Prints in
black and white
**THE ONLY PAPER FOR WINTER
... SCENES ...**

One dozen 4 x 5 Cyko with
developer, 20 cents, of your
dealer, or

THE ANTHONY & SCOVILL CO.
122-124 Fifth Ave., New York
Atlas Block, Chicago

Correspondence Study

The University of Chicago Through the University Extension

Offers instruction by correspondence in many Academy,
College, Graduate, and Divinity departments, including
instruction in

| | |
|----------------------------|----------------|
| PHILOSOPHY | HISTORY |
| SOCIOLOGY | SEMITIC |
| LANGUAGES | CHURCH HISTORY |
| BIBLICAL LITERATURE | |
| COMPARATIVE RELIGION, ETC. | |

Degrees are not granted upon work done wholly by corre-
spondence, but credit will be given for courses when com-
pleted by examination at the University, and thus the time
of residence required for a degree may be shortened.

Work may be commenced at any time

Special circulars will be sent on application to
**THE CORRESPONDENCE-STUDY DEPARTMENT
THE UNIVERSITY OF CHICAGO
CHICAGO**

Special circulars explaining the work of the **LECTURE-
STUDY DEPARTMENT** of the University Extension will
be sent on application.



**"99% of a Camera's Value
is in the Lens"**

THOUSANDS of amateur and profes-
sional photographers are making won-
derful pictures—

THAT'S RIGHT

Thousands of amateur and professional pho-
tographers are making poor pictures—

THAT'S WRONG

There is only one part of a Camera that is
responsible for the *Quality* of the picture—

THAT'S THE LENS

Perhaps then you are trying to make good pictures with a poor lens. Might as well stop
right now, and begin again. A poor lens cannot make a perfect picture, even by accident.

THE GOERZ LENS

Has produced the most wonderful photographs in the world, and is used by all leading pho-
tographers, both amateur and professional. Any photographic dealer will fit a Goerz Lens
to your Camera, if told to do so. *Booklet Free.*

C. P. GOERZ, Room 6, 52 E. Union Sq., New York

\$3000.⁰⁰/₁₀₀

Rochester, N.Y. Aug. 1 1902.

Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World
Three Thousand ⁰⁰/₁₀₀ Dollars

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Prisma, Pease and other hand cameras with B. & L. Lenses being provided.

Bausch & Lomb Optical Co

ROCHESTER, N.Y.

Who will send full information on request.

THE UNIVERSITY OF CHICAGO PRESS Contributions to Education

By JOHN DEWEY, Professor and Head of Department of Philosophy in the University of Chicago, and ELLA FLAGG YOUNG, Professor of Education in the University of Chicago.

The series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy.

- | | |
|--|---------------------|
| No. 1. ISOLATION IN THE SCHOOL | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 50 cents | postpaid, 54 cents |
| No. 2. PSYCHOLOGY AND SOCIAL PRACTICE | By JOHN DEWEY |
| 12mo, paper, net, 25 cents | postpaid, 27 cents |
| No. 3. THE EDUCATIONAL SITUATION | By JOHN DEWEY |
| 12mo, paper, net, 50 cents | postpaid, 53 cents |
| No. 4. ETHICS IN THE SCHOOL | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 25 cents | postpaid, 27 cents |
| No. 5. THE CHILD AND THE CURRICULUM | By JOHN DEWEY |
| 12mo, paper, net, 25 cents | postpaid, 28 cents |
| No. 6. TYPES OF MODERN EDUCATIONAL THEORY | By ELLA FLAGG YOUNG |
| 12mo, paper, net, 25 cents | postpaid, 28 cents |
| Price for series on one order to same address, net, \$1.50; postpaid, \$1.67 | |

For Sale by Dealers
or

The University of Chicago Press, Chicago, Illinois



LIFEBUOY

Soap has double power, for while it cleanses thoroughly it disinfects perfectly. It destroys dirt and disease germs at one and the same time. Equally safe for a delicate fabric or a dangerous drain, for a luxurious shampoo or to disinfect a sick-room, for the family washing or a delightful bath.

An honest, undisguised soap, with its own clean, wholesome scent indicating its antiseptic qualities, which costs no more than ordinary soaps—only 5 cents at all dealers. Your money back if it is not satisfactory.

VALUABLE BOOKLET FREE

Lever Brothers Limited, New York Offices



BUFFALO LITHIA WATER

Its Reputation does not Depend upon "Talking Points."
It is Offered to the Public upon its Record of Results
Accomplished. Nothing save an Actual Test can be
More Satisfactory to the Patient than the Testimony
of Eminent Medical Men who have Repeatedly
Tested its Merits in Bright's Disease, Albuminuria,
Renal Calculi, Gout, Rheumatism, and all Uric
Acid Troubles.

Cyrus Edson, A. M., M. D., *Health Commissioner of New York City and State, President Board of Pharmacy, New York City; Examining Physician Corporation Council, New York City, etc.,* says: "I have prescribed **BUFFALO LITHIA WATER** with great benefit in Bright's Disease."

Dr. William H. Drummond, *Professor of Medical Jurisprudence, Bishop's University, Montreal, Canada:* "In the Acute and Chronic Nephritis (Bright's Disease of the Kidneys) of Gouty and Rheumatic Origin as well as in the graver Albuminuria of Pregnancy, I have found **BUFFALO LITHIA WATER** to act as a veritable antidote, and I know of no other natural agent possessing this important quality."

T. Griswold Comstock, A. M., M. D., *of St. Louis, Mo.,* says: "I have often prescribed **BUFFALO LITHIA WATER** in Gouty and Rheumatic conditions and in Renal Calculi, accompanied with Renal Colic, and always with the most satisfactory results. In Renal Calculi, where there is an excess of Uric Acid, it is especially efficacious."

Dr. Jos. Holt, *of New Orleans, Ex-President of the State Board of Health of Louisiana,* says: "I have prescribed **BUFFALO LITHIA WATER** in affections of the kidneys and urinary passages, particularly in Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra. The results satisfy me of its extraordinary value in a large class of cases usually most difficult to treat."

Voluminous medical testimony of the highest order, which admits of no question or imputation, mailed to any address.

BUFFALO LITHIA WATER is for sale by druggists and grocers generally.

PROPRIETOR BUFFALO LITHIA SPRINGS, VIRGINIA.

Finest in the World
**BAKER'S
 COCOA**



—
 LOOK
 AT
 THE
 LABEL
 —
 TAKE
 NO
 OTHER
 —

CHOICE RECIPES, 30 PAGES, SENT FREE
WALTER BAKER & CO. Ltd.
 ESTABLISHED 1780. DORCHESTER, MASS.
40 Highest Awards in Europe and America

THE
WEBER
 TONE

IS THE IDEAL

PIANO
 TONE

THE WEBER PIANO COMPANY
 105 Fifth Ave., New York
 266 Wabash Ave., Chicago

CATALOGUE MAILED FREE ON REQUEST



With paint and powder in Grandma's time
 Ye lady made great show.
 To-day my lady makes up fine—with

HAND SAPOLIO.

It does what soap cannot do, by a method of its own. If you want a velvet skin, don't PUT ON preparations, but TAKE OFF the dead skin, and let the new perfect cuticle furnish its own beauty.

Yose PIANOS

have been established over 30 YEARS. By our system of payments every family in moderate circumstances can own a YOSE piano. We take old instruments in exchange and adjust the new ones to your taste free of expense.

Write for Catalogue D and explanations.

VOLUME III

NUMBER 8

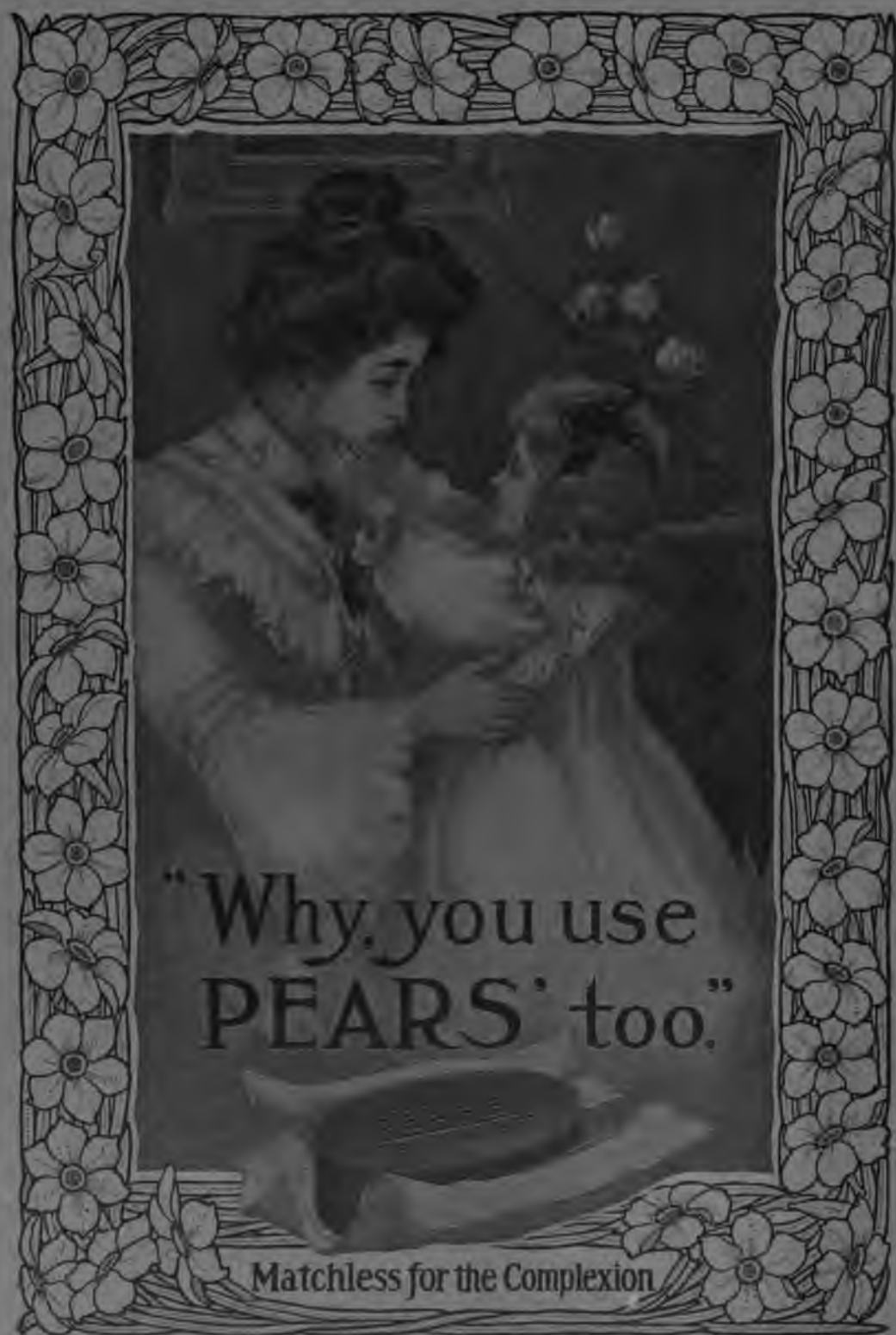
The Elementary School Teacher



APRIL, 1903

Chicago: *The University of Chicago Press*
Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1903, BY THE UNIVERSITY OF CHICAGO ~~~~~  
Entered at the post-office at Chicago, Illinois, as second-class matter, October 30, 1902



"Why, you use  
**PEARS'** too."

Matchless for the Complexion



# The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

---

## CONTENTS FOR APRIL, 1903

|                                                                                     |                   |     |
|-------------------------------------------------------------------------------------|-------------------|-----|
| LITERATURE IN THE ELEMENTARY SCHOOL. I                                              | J. ROSE COLBY     | 473 |
| THE FOUNDATIONS OF ENGLISH GRAMMAR TEACHING                                         | GERTRUDE BUCK     | 480 |
| A PLEA FOR OUTLINE DRAWING FOR LITTLE CHILDREN                                      | JOHN DUNCAN       | 488 |
| SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS. IV                               | KATHARINE E. DOPP | 499 |
| GEOGRAPHY AND MENTAL IMAGES—AN EXPERIMENTAL STUDY                                   | GEORGE H. BETTS   | 506 |
| THE ENRICHMENT OF THE TEACHER'S IDEAL                                               | ANNA TOLMAN SMITH | 513 |
| ACADEMIC AND PROFESSIONAL TRAINING OF TEACHERS. I                                   | WILLARD C. GORE   | 517 |
| NOTES ON NATURE STUDY                                                               | WILBUR S. JACKMAN | 524 |
| THE VERB: A QUESTION OF LOGIC AND PSYCHOLOGY                                        | CLINTON S. OSBORN | 530 |
| ARITHMETIC CONSIDERED AS A UTILITARIAN STUDY—WHAT SHOULD<br>BE THE COURSE OF STUDY? | CLIFF W. STONE    | 533 |
| EDITORIAL: EXPRESSION                                                               | MARTHA FLEMING    | 543 |
| BOOK REVIEWS:                                                                       |                   |     |
| <i>Woolley</i> : The Western Slope, LAURA T. BRAYTON                                |                   | 550 |
| BOOKS RECEIVED                                                                      |                   | 552 |

Hereafter No. 1 of the new volume will be published in September.

---

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

**THE UNIVERSITY OF CHICAGO PRESS,**

**CHICAGO, ILLINOIS**

ENTERED AT THE POST-OFFICE AT CHICAGO, ILLINOIS, AS SECOND-CLASS MATTER, OCTOBER 30, 1902  
COPYRIGHTED, 1903, BY THE UNIVERSITY OF CHICAGO



# Manual Training Magazine

**T**HE MANUAL TRAINING MAGAZINE is an illustrated periodical devoted to some of the newer phases of education—especially to those in which handwork plays an important part. It deals, therefore, with questions relating to manual training, sloyd, trade-teaching, domestic art, the various arts and crafts which have found their way into the school, and the relation of all these to other factors in education.

Each number contains (a) articles, some of which are illustrated; (b) reports of meetings of educational associations in which manual training is considered; (c) reviews and notices of books, pamphlets, and periodicals; (d) news items; and (e) editorial notes.

The MAGAZINE is edited by Charles A. Bennett, head of the Department of Manual Arts, Bradley Polytechnic Institute, Peoria, Ill., and is published quarterly at the University of Chicago Press. The subscription price is \$1.00 a year; in foreign countries, \$1.15. Send two-cent stamp for sample copy.

*The University of Chicago Press, Chicago, Illinois*

## HARVARD UNIVERSITY

### THE SUMMER SCHOOL OF ARTS AND SCIENCES

offers 83 courses of instruction in Sanskrit, Greek, Latin, English, German, French, Spanish, Russian, Public Speaking, History and Government, Economics, Psychology, Education, Theory of Design, Drawing, Music, Mathematics, Surveying, Shop-work, Physics, Chemistry, Botany, Geology, Geography, and Physical Education. The courses are designed for teachers, but are open to all qualified men and women. *July 6 to August 14, 1903.* Reduced railway rates on account of the meeting of the National Educational Association in Boston. The Announcement and detailed information will be sent on application to J. L. LOVE, 16 University Hall, Cambridge, Mass.

N. S. SHALER, *Chairman.*

Hundreds of Teachers Have Annually Been Benefited

### The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager

378-388 Wabash Avenue - CHICAGO

SEND FOR "OUR PLATFORM"

### The James F. McCullough Teachers' Agency

Fine Arts Building, Chicago

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—**Try McCullough.**

## Correspondence Instruction

credit is given so that the time of required residence for the Bachelor and Doctor's degrees is materially shortened. The work offered includes courses in **Theology, Philosophy, History, Pedagogy, Sociology, the Languages, Literature, and Mathematics.**

Circulars giving detailed information may be had by addressing

**THE CORRESPONDENCE-STUDY DEPARTMENT,**

**The University of Chicago, Chicago, Ill.**

### The University of Chicago

offers advantages for non-resident students through its Correspondence-Study Department which cannot be surpassed. Degrees are not granted upon work done wholly by correspondence, but when the courses are completed at the University,

# NOTABLE NEW BOOKS

## THE MORSE READERS

Practical Graded Text, Five Books

By THOS. M. BALLIET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Universally indorsed as the best Grade-Readers.

### MORSE'S EDUCATIONAL SYSTEM and the NATURAL-MOVEMENT METHOD COPY BOOKS

(Medial.) Many original features but thoroughly practical. 20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material. Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

## THE MORSE COMPANY

8 Beacon St., BOSTON

The Bank of Metropolis Building, 31 Union Square,  
New York City, B'way and 16th Street

224 Wabash Ave., CHICAGO

### For Use in Secondary Schools

#### History

|                                                 |        |
|-------------------------------------------------|--------|
| Channing—Students' History of the United States | \$1.40 |
| Coman & Kendall—History of England              | 1.25   |
| Botsford—History of Greece                      | 1.10   |
| Botsford—History of Rome                        | 1.10   |
| Adams—Medieval and Modern History               | 1.10   |
| Adams—Growth of French Nation                   | 1.25   |
| Adams—European History                          | 1.40   |

#### Science

|                                       |      |
|---------------------------------------|------|
| Bailey—Elementary Botany              | 1.10 |
| Davenport—Introduction to Zoology     | 1.10 |
| Crew—Elements of Physics              | 1.10 |
| Tarr—First Book of Physical Geography | 1.10 |
| Tarr—Elementary Physical Geography    | 1.40 |
| Tarr—Elementary Geology               | 1.40 |

#### Mathematics

|                                             |      |
|---------------------------------------------|------|
| Fisher & Schwatt—Secondary Algebra          | 1.08 |
| Fisher & Schwatt—Complete Secondary Algebra | 1.35 |
| Fisher & Schwatt—Quadratics and Beyond      | .90  |
| Holgate—Elementary Geometry                 | 1.10 |

#### English

|                                                               |      |
|---------------------------------------------------------------|------|
| Carpenter—Rhetoric, First High-School Course                  | .60  |
| Carpenter—Rhetoric, Second High-School Course                 | .50  |
| Lewis—Introduction to the Study of Literature                 | 1.00 |
| Carpenter—Principles of English Grammar                       | .75  |
| Pocket English and American Classics (34 volumes ready), each | .25  |

### The Macmillan Company

378-388 WABASH AVE., CHICAGO

New York Boston Atlanta San Francisco

### Have you got to speak a piece?

Well, we don't know of any kind of "effort" from the schoolboy's "recitation" or the schoolgirl's "reading," and along through the whole school and college career, down to the "response to toasts" at the last "class dinner," that is not provided for among us—

- Commencement Parts, including "efforts" for all other occasions. \$1.50.
- Pros and Cons. Both sides of live questions. \$1.50.
- Playable Plays. For school and parlor. \$1.50.
- College Men's Three-Minute Declamations. \$1.00.
- College Maids' Three-Minute Readings. \$1.00.
- Pieces for Prize-Speaking Contests. \$1.00.
- Jense Declaration Book. Paper, 50c. Cloth, 50c.
- Handy Pieces to Speak. 108 on separate cards. 50c.

■ List of "Contents" of any or all of above free on request if you mention this ad.

■ HINDS & NOBLE, Publishers  
31-33-35 West 15th Street, N. Y. City  
Schoolbooks of all publishers at one store.

### The University of Chicago Press

Special printing facilities for academic work, including theses and reports of educational bodies and learned societies.

Educational and scientific works printed in English, German, French, Latin, Greek, Hebrew, and other languages.

Estimates furnished

The University of Chicago Press  
88TH ST. AND ELLIS AVE., CHICAGO

## Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers **The University of Chicago Press, Chicago, Illinois**

# The Elementary School Record

A SERIES OF MONOGRAPHS ON THE ELEMENTARY  
SCHOOL OF THE PEDAGOGICAL DEPARTMENT OF THE  
UNIVERSITY OF CHICAGO

Edited by JOHN DEWEY and LAURA L. RUNYON

The object of the *Elementary School Record* is to make possible for use in other schools the details of subject-matter and method in the application of modern psychology in education, as demonstrated by the University Elementary School. The plan includes a series of nine monographs, each number containing a record of work done by a group in the school, and also an article concerning the work of one department in all grades.

The series, royal 8vo, cloth,  
net, \$1.75; postpaid, \$1.89.

The University of Chicago Press  
CHICAGO, ILLINOIS

## SOME IMPORTANT BOOKS ON EDUCATION

**The School and Society.** By JOHN DEWEY. (Third edition.) Supplemented by a statement of the Laboratory School of the University of Chicago. 130 pp., 12mo, cloth. \$1.00.

**The Prospects of the Small College.** By PRESIDENT WILLIAM R. HARPER. 50 pp., 12mo, paper. *Net*, \$0.25.

**Report of the Educational Commission of the City of Chicago.** The commission was appointed by HON. CARTER H. HARRISON, January 19, 1898, and the report is edited by PRESIDENT WILLIAM R. HARPER. (Second edition.) 250 pp., royal 8vo, paper. *Net*, \$1.00.

**The Education of Business-Men.** A View of the Organization and Courses of Study in Commercial High Schools of Europe. By EDMUND J. JAMES. 232 pp., 8vo, paper. *Net*, \$0.50.

**The Philosophy of the Humanities.** By THOMAS FITZ-HUGH. 63 pp., royal 8vo, paper. *Net*, \$0.50.

FOR SALE BY BOOKDEALERS OR BY THE PUBLISHERS  
THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois

# Decennial Publications The UNIVERSITY of CHICAGO

## FIRST SERIES

The First Series consists of ten volumes representing the work of research of the several Departments of the University. These articles are also issued in separate form as reprints. Size, quarto.

## SECOND SERIES

The following octavo volumes of the second series are announced :

- Vol. I. The Life and Repentance of Marie Magdalene.** By LEWIS WAGER. A morality play reprinted from the original edition of 1566-67, edited, with an Introduction, Notes, and Glossarial Index, by FREDERIC IVES CARPENTER. Pp. xxxvi+91, cloth. *Net*, \$1.00; postpaid, \$1.08.
- Vol. II. The Second Bank of the United States.** By RALPH C. H. CATTERALL. Pp. 538, cloth. *Net*, \$3.00; postpaid, \$3.20.
- Vol. III. Light Waves and their Uses.** By ALBERT A. MICHELSON; with 108 drawings and three colored plates. Pp. 164, cloth. *Net*, \$2.00; postpaid, \$2.12.
- Vol. IV. The Poems of Anne Countess of Winchelsea.** From the original edition of 1713 and from unpublished manuscripts, edited, with an Introduction and Notes, by MYRA REYNOLDS. Pp. cxxx+434, cloth. *Net*, \$3.00; postpaid, \$3.25.
- Vol. V. Assyrian and Babylonian Letters Belonging to the Kouyunjik Collection of the British Museum.** By ROBERT FRANCIS HARPER. Pp. xxx+120, cloth. *Net*, \$6.00; postpaid, \$6.12.
- Vol. VI. La Perfecta Casada.** Por el Mæstro F. LUY DE LEON. Texto del Siglo XVI. Reimpresión de la tercera edición, con variantes de la primera, y un prólogo. Por ELIZABETH WALLACE. Pp. xxvii+119, cloth. *Net*, \$1.50; postpaid, \$1.58.
- Vol. VII. Legal Tender: A Study in English and American Monetary History.** By SOPHONISBA P. BRECKINRIDGE. Pp. xvii+180, cloth. *Net*, \$2.00; postpaid, \$2.15. [Feb. 15.]
- Vol. VIII. The Rôle of Diffusion and Osmotic Pressure in Plants.** By BURTON E. LIVINGSTON. Pp. 144, cloth. *Net*, \$1.50; postpaid, \$1.60. [Feb. 15.]
- Vol. IX. A History of the Greenbacks, with Special Reference to the Economic Consequences of Their Issue.** By WESLEY CLAIR MITCHELL. [In press.]
- Vol. X. The Study of Stellar Evolution: A Popular Account of Modern Methods of Astrophysical Research.** By GEORGE ELLERY HALE. [In preparation.]
- Vol. XI. Studies in Logical Theory.** Edited by JOHN DEWEY with the co-operation of members and Fellows of the Department of Philosophy. [In press.]
- Vol. XII. The Place of Apocalyptic Messianism in the New Testament.** By SHAILER MATHEWS. [In preparation.]
- Vol. XIII. Glacial Studies in Greenland.** By THOMAS C. CHAMBERLIN. [In preparation.]
- Vol. XIV. Lectures on the Calculus of Variations.** By OSKAR BOLZA. [In preparation.]
- Vol. XV. Studies in General Physiology.** By JACQUES LOEB. [In preparation.]
- Vol. XVI. The Finality of the Christian Religion.** By GEORGE BURMAN FOSTER. [In preparation.]
- Vol. XVII. Predecessors of Goethe in Italy in the Eighteenth Century.** By CAMILLO VON KLENZE. [In preparation.]

FOR SALE BY BOOKDEALERS OR THE PUBLISHERS

**The University of Chicago Press : CHICAGO**

# **The Place of Industries in Elementary Education**

By **KATHARINE ELIZABETH DOPP.**

## **NEW FEATURES**

The Evolution of Aryan Peoples Presented in a New and Concrete Form.

A New Motive Power Utilized in the Work of Education.

New Materials for the Course of Study.

New Methods of Teaching.

Means of Securing Co-operation between Grade Teachers and Teachers of the Industrial and Fine Arts.

A Contribution to the Labor Question.

An Insight into the Factory System.

**These features are fully amplified by practical illustrations of the author.**

208 pp., 12mo, cloth, *net*, \$1.00; postpaid, \$1.10.

# **The Possibility of a Science of Education**

By **SAMUEL B. SINCLAIR**, Vice Principal  
Normal School, Ottawa, Canada.

An Investigation of the Possibility of a Science of Education.

Necessity of Professional Training for Teachers.

The Kind of Training which Should be Given.

Conclusions of the Best Educators of Today.

150 pp., 8vo, cloth, *net*, \$1.00; postpaid, \$1.08.

# **The School and Society**

By **JOHN DEWEY.** 130 pp., 12mo, cloth, postpaid, \$1.00.

---

---

**The University of Chicago  
Press, Chicago, Illinois**

# A WORD ABOUT READERS

## A BIRD'S-EYE VIEW of the material in the "Lights to Literature Readers by Grades" reveals several things

*First*.—That the selections are from the *best* English and American Literature.

*Second*.—That many of these selections are modern and new to school readers, which gives them a freshness that commands the interest of both teachers and pupils.

*Third*.—That the readers are carefully graded and that the literary development of the child is carefully followed.

*Fourth*.—That Book Seven and Book Eight are made up of *complete* British and American masterpieces carefully edited, with portraits and biographical sketches. The *Lights to Literature Readers* are the only readers which contain these features. They not only *light* the way to literature, they lead the child to an appreciation of literary *wholes* and into the very field of our best English writing.

This bird's-eye view *cannot* show that every selection appears in the exact words of the authors. There is no adapting or working over of masterpieces. These are the only readers that do not adapt and dilute standard literary selections.

If you wish a nearer view of the *Lights to Literature Readers*, kindly allow us to give you an opportunity to examine them.

### WHAT ONE EDUCATOR THINKS

"We have now been using *Lights to Literature Readers* for several months. . . . I had examined the current series of readers by various publishers before these were adopted. A careful observation of the reading we secure from the *Lights to Literature Readers* confirms the impression I had formed when they were adopted, namely, that they are the brightest, freshest, and most inspiring series of readers yet published. The reading-material in these books is thoroughly sane. It is the most liberal and broad in variety yet offered." (Signed) HENRY S. TIBBITS,  
Principal John Spry School, Chicago, Illinois.

**RAND, McNALLY & COMPANY, Educational Publishers**  
Chicago . New York . London

## A Delightful and Instructive Summer Vacation for Teachers

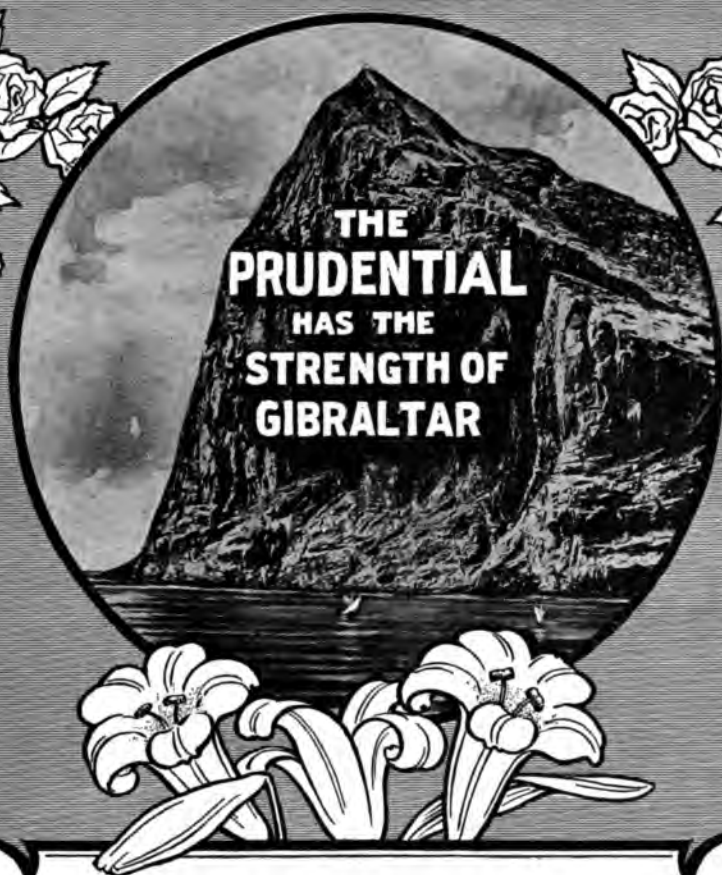
A trip to Jamaica, "The Queen of the Antilles," is the most delightful and profitable summer vacation that a tired teacher can enjoy. Combining a season of healthful rest with a continued series of educational object lessons, an interesting five-day sea voyage of 1588 miles takes you to an "Isle of Fringed Palms," to a foreign land, among foreign sights and foreign people, yet speaking your language. You will be charmed with the lofty mountains, and fascinated with the luxuriant growth of brilliant tropical vegetation, rare plants, palms, ferns, fruits, and gorgeous flowers in riotous profusion, and, stealing gently over all, a quiet, dreamy, peaceful atmosphere of rest, so pure and clear that the moon and stars will seem to be nearer; and in the south will blaze that mystic constellation, "the Southern Cross." The trade winds, acting like a huge electric fan, will keep a delicious spice-laden breeze in motion, so tempering the air that there will be no hot, stifling days, or dull, enervating nights. The thermometer varies only from 70° to 88°. Should you enjoy sea-bathing, you will find clean, hard, white, sandy beaches everywhere along the coast, laved with the milk-warm, crystal-blue, gulf-stream current, without fear of sharks or



undertow. A dip in the Caribbean here will give you a sense of renewed vigor and delight. Should you enjoy riding, bicycling, or strolling, you will find hundreds of miles of smooth, hard, well-kept roads and by-paths; and if you desire mountain climbing here is the famous Blue Mountain range, many peaks towering nearly 8,000 feet above the sea, from whose lofty terraces your eye will feast on the most magnificent views to be seen on this continent. The usual annoying pests of our summer resorts, such as flies, mosquitoes, snakes, fogs, and fevers, are totally absent. Steam and electric railroads extending to various points of the island will enable you to make many delightful excursions among towns and villages whose histories and records date far back of our United States civilization. On every hand you will find unusual opportunity for study of history, geology, geography, botany and astronomy. Elegant American or English

well-kept hotels or boarding-houses will permit you to remain for a short or long vacation at any desired rate. The staunch twin-screw "Admiral" steamers leave Boston every Wednesday and Friday. Round trip tickets, including meals and state-room berths, \$60.00, good from May 1st to October 1st.

Write for free booklet "Tropical Holiday." Address UNITED FRUIT CO., Long Wharf, Boston.



**THE  
PRUDENTIAL  
HAS THE  
STRENGTH OF  
GIBRALTAR**

## **Every Productive Life**

is capital in itself and has a definite money value  
to those dependent upon it. Life Insurance in

# **THE PRUDENTIAL**

protects that capital and renders that value  
permanent and certain.

**Policies All Ages, 1 to 70. Both Sexes.**

**Amounts, \$100,000 to \$15.**

Write for Information. Dept. 25

**THE PRUDENTIAL INSURANCE CO. OF AMERICA**

**JOHN F. DRYDEN, President.**

**HOME OFFICE, Newark, N. J.**

# THE ELEMENTARY SCHOOL TEACHER

APRIL, 1903

## LITERATURE IN THE ELEMENTARY SCHOOL.

### I.

THE school exists to help home and society make a human being out of the undeveloped human animal. Before the help of the school is sought, family, society, and the outdoor world have for six years been stimulating and guiding the child's development. Already, through contact with home life and with such phases of social life and earth life as inevitably come in his way, the child is coming to himself, is being humanized. If he has had half a chance, his senses are alert, though uninstructed; his mind inquisitive as to the what and why and how of things; his imagination active in creating out of the material supplied by his limited experience a world of vivid interest, though of false proportions and distorted relations. Already he loves and hates and laughs and cries. He is unjust and generous, quickly moved to anger and to grief. He is affectionate and cruel, envious and full of admiration. He finds joy in destruction and greater joy in creation. To himself he is the center of life, and already the human hunger for life is pricking him. He is weak in body, feeble in judgment, ardent, ignorant, with measureless capacity for pleasure and pain and unknown potentialities of thought and action. And, like every other soul endowed with life, he is driven by the need of expansion, the instinct of self-realization.

Some such being as this it is that the school opens its doors to. This being it must make into the man, the woman. This crescent life it must nurture into the full life of man. The vital force, the all but creative power, by which the transforma-



tion is wrought, is in the child. It is the business of the school to provide nutriment and create conditions for free and unimpeded growth.

To be a full-grown man or woman, at home on earth, with free, natural, and true relations to all its creatures, requires, we are all agreed, knowledge, dynamic knowledge—knowledge of the earth, of its constituent physical forces and its movements, its relations to sun and moon and stars and sister-planets; knowledge of its elements and their modes of behavior singly and together; knowledge of the all-embracing atmosphere, its relation to life and to the earth; knowledge of plant life and animal life, their friendships, enmities, and interdependence, and all the ways in which they change, support, and control the life of man. Further, the developed human being must both so understand his own body as to know how to keep it in health and make it do full work in the furtherance of his ends, and so command his own mind and senses and their processes that he shall perceive truly, reason accurately, and judge aright. We agree also that full-grown men and women must have such knowledge of the organization, institutions, and industries of the society they live in that they may adjust themselves to this society with the least friction and in turn bend it most effectively to the service of worthy ends.

So far we are pretty well agreed. After a fashion we have been shaping our courses of study accordingly, and with more or less blundering have been trying to use them to such informing and transforming of the child. Astronomy, physics, and chemistry; geology, geography, physiography, and meteorology; physiology and hygiene; geometry, arithmetic, and algebra; zoölogy and botany; history and even civics and something of sociology and political economy have thus deservedly, however awkwardly and tentatively, found place even in our elementary courses. Through them we are guiding the boy and the girl to some knowledge of their habitat and power over it, and to certain phases of self-knowledge.

Formidable as this array of subjects is, however, and all-inclusive as it seems, it leaves too little touched certain aspects of human nature and certain relations of man to his environment.

Nor are these neglected aspects and relations unimportant. Rather, they may be said to be of all phases and relations of man's life the most distinctively human.

To be full-grown men and women, really at home on earth, with free, natural, and true relations to all its creatures, requires more than knowledge of our physical environment, of our dependence on it, and of our power over it; more than knowledge of historical and present conditions of organized society. Back of society lies human nature in the concrete as it exists in countless individual men and women. It is concrete human nature that is the source of society. It is individual men and women that at any given moment make the visible body of the society in which we live. It is the characters, motives, passions, wills, of these men and women that meet and clash, coalesce and struggle, with ours. And out of this confused struggle come the gravest issues of life. Our wills are determined to good and evil; our vision is blurred and narrowed to take in merely the petty, the sordidly personal, or opened wide and clear to the spectacle of the world-life; our spirits learn to cringe before the lightest blows that life inflicts or to meet full-front the most fatal. This concrete human nature, then, in ourselves and in our fellows, we need to know as surely as we need to know physical nature. It is well to know how grass grows and plants behave under given conditions of moisture and light and shade; it is also well to know how men and women feel and act in the ever-changing conditions of life. It is essential to life to have for nature and natural forces the respect that comes from knowledge of their power; it is also essential to feel in the presence of a human being the noble respect that springs from a knowledge of the soul's possibilities. It is necessary to have such comprehension of natural forces that we may use them to our own ends instead of being crushed by them. It is equally necessary so to understand the moral and spiritual forces manifest in the actions of men that we may make them show their power beneficently in co-operation with us to the attainment of worthy living rather than retributively in bringing us to destruction. We may, if we will, leave boys and girls to get their knowledge of

this moral, emotional, and spiritual world, and their adjustment to it, from actual experience with it in themselves and others. Much of their knowledge can come in no other way. It is only by contact with life that we can learn what it is. But if boys and girls are to reach maturity with a fairly intelligent understanding of themselves and of the human world in which they have been living under more or less careful guidance, and in which they are to go on living more and more self-directed, they need to be brought into contact with far more of life than the actual conditions of their individual worlds are likely spontaneously to offer. They need very early to be admitted to the great world of universal human life. And the open doorway to this world is literature.

The function of literature in the life of the child is in no essential respect different from its function in the life of the adult. To both alike it is the great interpreter of the life they find in themselves and immediately about them, and their guide into the life that lies beyond those narrow confines. It is the great initiator into life and the great enlarger of life. In fulfilling these functions truly, it almost necessarily supplies large increase of joy and brings into somewhat better tune the clamorous and jarring strings of individual life.

The fitness of literature for these functions is dependent on three aspects of its own nature. It gets its power from the fact that it is an embodiment of life concrete, broadly comprehensive, and artistic. On these three aspects of its nature, and on the needs of the growing boy and girl, depend also both our choice of material throughout the school course and our handling of the material chosen. It is worth while, then, to linger a little over our meaning here.

The life that we ourselves live is no abstraction. From the least pin-prick of the flesh to the long-borne agony that at last wears out all the reserve force of body and soul, it is real. From the mere sense of physical well-being to the keenest thrill of joy the heart can know; from the faintest stirring of the moral sense to the fullest pulse of the moral life; from the primitive pleasure in bright color or discordant noise to the painter's and

the musician's delight in harmony of color and tone—it is real, concrete, individual. The world we live in is equally concrete. It is a particular broken brick in a particular walk that trips us. It is a particular group of arching tree-tops outlined against the smoldering sunset that deepens our loneliness and calls up homesick memories. It is hands of flesh and blood our hands move to clasp. The perplexities that beset us, the joys that enlarge our lives, our loves and hates and hopes and fears, have definite content. And when we worship even the Unknown God it is no abstraction we worship—though unseen, unheard, beyond our grasp, it is an actual something dimly divined as the working force of the universe.

It is this actual, concrete, individual life in which we are plunged from birth to death that haunts us, bewilders us, allures us, provokes in us an insatiable hunger and thirst. It was this same life that haunted the author of the *Iliad* and *Odyssey*, of *Agamemnon*, of *Edipus*, and of *Orestis*. It was this life that drew the feet of Dante down the narrowing circles of hell, up the hard slopes of the purgatorial mount, even to the heights of heaven. Shakspeare fixed upon it his steady, all-comprehending gaze. The primitive peoples who gave us our folklore heroes, the nameless singers of ballads, the proverb makers, the writers of the great epic, the drama, the novel, the lyric, the essay—all have felt the fascination of this same life, have struggled to comprehend it, to master it; and, as far as their creative power has availed, they have reproduced it in literature. And in literature we find it, concrete life still, though revealed only through symbol—men and women and children with blood in their veins, love and hate and strength and weakness in their hearts, and a tangle of thoughts and purposes in their minds. And since it is actual life we find there, it holds us in books as it holds us out of books. We live in it as truly, and, whatever its scope, to the measure of our capacity to understand and make it our own it gives us increase of joy, increase of pain, increase of sympathy and wisdom, increase of power to understand and to do—enlargement of life.

The range of literature, moreover, is immense. It is coex-

tensive with life. It is a far cry from the topsy-turvy world of *Mother Goose*, with its glimmers of sound sense and feeling and its insistent rhythm, to the titanic passion and the wisdom and beauty of *King Lear* and its orchestral harmonies. Yet literature comprehends them both. We leave childhood behind us, but the child-world lives on "exempt from age and immortal" in *Cinderella* and *Beauty and the Beast*, with Mowgli and Gray Brother in the jungle, and in the enchanted *Child's Garden of Verses*. Childhood and youth, manhood and age, meet and mingle and abide in the wide bounds of the Homeric world, flooded with sunshine, swept with storm—a manly world, resolute, much-enduring, much-achieving. Romance dwells forever with Aucassin and Nicolette; with Robin Hood in Sherwood Forest; in that other enchanted forest where Rosalind holds sway; in Verona, where the song of the lark hastens the lingering Romeo from Juliet. It dwells with Roland at Roncesvalles, with Arthur and his knights with Guenevere and Iseult, and, touched with the compassionate wisdom of a great spirit, it abides with Francesca even among the restless shadows of the dolorous world where hope is not. Literature, too, like life itself, is veined with love of earth the bread-giver and all-sustainer, of earth the great mother, earth the friend and gypsy comrade, smiling, guileful, open-hearted, moody, wayward, steadfast, and faithful. The darker passions haunt the world of literature as of actual life. Sordid lives jostle the magnanimous, and cowardly or cruel souls bring to naught all the striving of the noble. Thersites rails at Agamemnon, and Paris leaves to Hector and to Ilium the atonement for his sins. The guilty perish and the innocent perish with them. The soul struggling with its own conflicting passions and aspirations sinks into ignoble depths or rises into serene air. The doubts of the mind, the weaknesses of the heart, the shrinking of the spirit—literature holds them all, reveals them all. And it holds and reveals the fairer aspects of life—human kindness and simplicity, tenderness, honor, brotherly love, motherhood and fatherhood, mirth that lightens the heart, and love and sorrow that exalt it.

And all this concrete, wide-ranging life literature presents in

forms of art. In the making of literature, as of any art-product, the seeing eye co-operates with the interpreting spirit. Together they look upon some portion of life till they catch its meaning, pierce through the multiplicity of its seeming to its unity of heart. Then under the influence of the creative impulse, deepest-seated but one and divinest of human impulses, the selective judgment and the constructive imagination choose whatever is essential to this unity, reject the non-essential, separate and combine the chosen material into an ordered whole, and even in the act—miracle of genius forever unexplained—breathe into their own work the breath of life. The so-called art-product is no mere product; it is life. It is life created, indeed, by the artist, but independent of him and by right taking its own place in the world of actual existence. It differs from the world of natural creation not so much by the reality and truth of the latter as by its own comparative simplicity. By one other trait also, resulting like the simplicity from the act of the selective judgment and constructive imagination—a more easily apprehended beauty.

And this comparative simplicity and beauty of the single work of art, along with its vivid reality and the wide comprehensiveness of the art-world as a whole, makes the work of literary art and literature as a whole peculiarly an interpreter of life to child and adult, a liberator from the confining bounds of personal experience, and a source of noble pleasure. It is these characteristics that make literature of incalculable service to the development of the human being and well-nigh indispensable from beginning to end of our course of study.

But that which is capable of service may fail to render it; that which is by nature absolutely indispensable to growth may even dwarf it. Whether literature shall render children its proper service depends on what literature we bring to them and how we bring it. And these are matters to be considered in later papers.

J. ROSE COLBY.

ILLINOIS STATE NORMAL UNIVERSITY,  
Department of Literature.

## THE FOUNDATIONS OF ENGLISH GRAMMAR TEACHING.

BELOW the idiosyncrasies of English grammar lie the features common to all grammar. To study English grammar as English grammar is certainly preferable to studying it as Latin grammar, but neither method absolves from the necessity of studying it primarily and fundamentally as grammar. The basic conceptions of grammar, as distinguished from those of mathematics, say, or of geology, must underlie and condition all intelligent study of the grammar of any particular language.

These basic conceptions may easily be reduced to two: (1) the nature of language and (2) the structure of language forms. From these all other grammatical conceptions are derived. Few treatises on the grammar of any language state explicitly their underlying theories upon these two essential points, and no judicious teacher would for a moment entertain the idea of doing so. But without explicit statement both teacher and text-book continually convey to the mind even of the dullest pupil some notion, perhaps rather some half-conscious image, of the essential nature of language itself, and of its various structural forms. A definition of conjunction or of preposition, a rule for the agreement of subject and predicate, an explanation of the classification of nouns—all are capable of suggesting such images, not solely or even necessarily by their obvious content, but by what some are pleased to call their “mere phrasing.” How potent a factor this “mere phrasing” may be in the formation of primary conceptions in grammar can be fully appreciated only by those who are able to recall with vividness the mental pictures suggested by their earliest studies in this subject.

To the writer, for instance, the word “language” always gave rise to the mental image of neat piles of counters or coins, variously stamped, ready to be looked over, chosen from, and arranged in certain patterns to make sentences. This image persisted dimly for years after the exact forms of statement

which had suggested it were forgotten. But turning back to the *Language Primer* first studied, the sources whence this picture was derived become apparent. The *Primer* said, of course, that "language is a medium of expression" and that "a sentence is a form of words that expresses a complete thought;" but these abstractions passed meaninglessly through the childish mind, while the concrete images corresponding to these further statements made a lasting impression: "Each word has its own meaning, stamped upon it by custom," and "Language is made up of words combined according to the rules of grammar."

Different, though parallel, mental pictures were recalled by a class of college juniors and seniors in answer to the question: "What image stood for the sentence in your mind when you first studied grammar in school? What did you then think a sentence was for?"

To avoid preconceptions, no explanation of these questions or of the occasion for asking them was given. Some students were, of course, conscious of no definite image. Others saw the sentence always in terms of the formal diagram they had been taught to use. The remaining answers are represented by those quoted below:<sup>1</sup>

"Unconsciously I always saw a sentence in the form of a train of cars, such as my little brother played with at the time when I began to study grammar. I never thought a sentence was for anything but to study."

"I always thought of a sentence as made up of square wooden blocks, strung along in a line. It seemed to me I could never get the edges to fit exactly. Its use, according to rule, was to state a fact; but this phrase had no meaning to us, for our favorite example was 'The cat and her kittens' and when this failed to satisfy, we gave 'The hen and her chickens.'"

"The noun in the subject was always a big blue bead, the principal verb a big red one. The other words were smaller beads of different colors, some of the adjectives following and some preceding the noun, the adverbs, and adverbial phrases somewhere near the verb. Sometimes I thought of this string of beads as coming out of my mouth, but that never seemed really true."

<sup>1</sup> A similar inquiry was made several years ago by Professor F. N. Scott, of the University of Michigan, and the answers presented in a paper entitled "The Figurative Element in the Terminology of English Grammar."



"A sentence looked to me like squares ruled off on paper and fitted together somehow—always in a different pattern, it seemed. I saw no use for it as I saw no use for grammar at all. A sentence was as much a thing by itself and as isolated from everything else as a puzzle put on the blackboard for me to solve would have been. It was built up by somebody just as a block-house might have been—for no purpose but to pull it down again."

"The teacher used to have us make sentences, one containing an abstract noun, one a proper noun, etc. I used to build them like card-houses, and thought of them as something of that sort. The only thing I ever thought they were for was to put together and tear down again in studying grammar."

"A sentence in grammar looked to me when I was a child as it does now—like a square of crazy patchwork. I don't, however, think of a real sentence in this way—one that comes in my reading, I mean."

"A sentence wasn't anything to me, as a child. It couldn't look like anything, because it really wasn't anything but a word used in a grammar. I thought the book had made it up. But I remember when we analyzed sentences I always thought of the way my 'dissected maps' at home fell to pieces if you tried to take them up."

Trivial enough are these images, but perhaps not wholly unsuggestive of the ideas of sentence-structure, hence of language-structure in general, derived by these young students of grammar. It is apparent, first of all, that the sentence, which we are fond of calling "the unit of language," was not to these students, so far as we may judge from their statements, a "medium of expression" or a "means of communication" at all. Doubtless it was so named by every grammar studied; but, once named, was straightway treated, not with apparent reference to its function in transmitting thought, but exclusively in terms of its form, as a collocation of words. This latter conception has no obvious relation to the former and is much more readily intelligible to the child's mind. He has many analogies at hand—the string of beads, the train of cars, the heap of coins, the block of pieces in crazy patchwork, the card-house, the dissected map. These are all wholes made up of separate things put together in a certain way. Hence a similar conception of sentence-structure is easily grasped, once it is suggested to the child's mind in any concrete fashion.

And such suggestion, it must be admitted, is seldom wanting. Glance over the introductory pages of almost any standard text-

book of English grammar, and one finds them fairly bristling with implications of the *e pluribus unum* theory of language-structure. One of the most widely popular manuals, Whitney's *Essentials of English Grammar*, is perhaps the most explicit in its suggestions of this conception. Note the following quotations, all taken from the second chapter, defining the parts of speech:

"Our language, like every other, is made up of words."

"*Shine, move, twinkle* . . . are not names: they are words which we put with names . . . to state or declare something," etc.

"This name, 'part of speech,' given to a word, plainly implies that there is something incomplete about it; that it is not a whole, but must be joined with other 'parts' in order to make a whole, in order to be speech. That is in fact the case; and the whole which these parts make up is called the sentence."

"For a sentence there must be, not only words of more than one kind, but words of certain kinds, fitted together in certain ways."

"We cannot . . . make a complete sentence without joining together a subject and a predicate."

"[A noun] can be put along with a verb to make an assertion."

"Some verbs are very rarely used alone as predicate, but are made complete predicates by other words added to them."

"The word *the* . . . can only be used along with a noun as an appendage to the noun. Other examples are *golden* and *white*; . . . each is added to a noun . . . to describe the thing of which the noun is the name."

". . . its name, 'adjective,' signifies merely something 'added' — that is, added to a noun by way of description."

"A noun and an adjective joined together will never make a sentence; . . . but we can make either an adjective or a noun a part of the assertion about a noun or a pronoun, if we join the two together by a verb."

"A word thus used is called an *adverb* because it is added to the verb in much the same way and for the same purpose as the adjective is added to the noun."

". . . The word [preposition] means simply 'placed before;' and they are in fact usually placed before the noun or pronoun which they are to connect to another word."

"The other kind of connecting word is called a *conjunction*; that is, a word that 'conjoins' or 'joins together.'

"Sometimes . . . the conjunction does hardly more than add one sentence on to another."

"A conjunction is a word used to connect sentences together."

"[Interjections] are not parts of the sentence itself; they are not put together with other parts to make up sentences."

The words "joined with" "added to," "put with," "put together with," or "put along with," "connect together," recur continually, bringing inevitably their corresponding images of the spatial juxtaposition and the mechanical aggregation of originally separate parts. The article is "an appendage" to the noun. A sentence is once explicitly described as consisting of "words of certain kinds fitted together in certain ways," while one part of speech "must be joined with other 'parts' in order to make a whole, in order to be speech."

It must, indeed, be a pupil more insensitive than are most children to visual suggestion who does not derive from expressions like these a conception of language-structure which is purely mechanical. But whence is drawn the notion of language-function admitted by the answers transcribed above and only too familiar to every observant teacher of grammar? Why should the young student never think "a sentence was for anything but to study," or unconsciously assume that "the book had made it up"? Why should one writer distinguish so pointedly between "a sentence in grammar" and "a real sentence—one that comes in my reading, I mean"? This is negative testimony, to be sure, but possibly none the less significant. It would, on the face of it, seem to indicate that the all but universal declaration of the treatises on grammar, "Language is a medium for the communication of thought"—or some equivalent statement—has failed of vital contact with the child's mind. But why has it thus failed? Because of its abstract formulation, doubtless; but, had it been in the minds of the grammarians an active principle, a real working hypothesis, would this abstract statement not have been supplemented, explained, made concrete in the terms used throughout the treatise? Would it not continually have come to light, as does the underlying conception of language-structure, not by intent, but unconsciously and of necessity? In that case it must have been stamped upon the student's mind, as was the parallel conception, becoming to him, not a mere form of words, but a living image, a factor to be reckoned with in his thinking.

It is undoubtedly true that the idea of language as the communication of thought finally conditions the current definitions

and rules in grammar. For instance, the definition of the sentence twice quoted above yields in last analysis such a philosophy as this: "A sentence conveys a thought from the mind of one person to that of another. A thought is made up of separate parts or elements brought together. One thinks of a thing or object in the world, and then of an action, and, putting the two thoughts (or parts of thoughts) together, he is able to think a whole thought (technically a judgment). So, in order to set up this thought in another person's mind, one must add a word which represents a thing to one which represents an action, and thus he has a whole sentence which represents a complete thought." But so far is all this implication in the background of the definitions or rules involving it that the sentence easily becomes to the pupil an end in itself, made for the sake of making it, according to rules which determine how it shall be constructed to satisfy tradition or convention, rather than the particular need of a specific situation. Seldom does a rule in grammar refer directly to the end which the sentence seeks. Seldom does a definition recognize this end. To the untrained student it may well seem that the sentence, once imprisoned between the covers of a grammar, is cut off from the process that gave rise to it, the situation which conditioned it, and "analyzed" as a dead unmeaning thing, the string of words printed across the page, the form *qua* form.

Justifiable and inevitable though such an impression may be, the keener analyst can perceive the correspondence already pointed out between language-structure as inorganic and language-function as that of thought-communication. There is no essential inconsistency between these two fundamental conceptions. Provided only thought itself be composite in structure, its communicating medium, its linguistic representative, may be a patchwork sentence. The condition is, however, we must note, denied by real logic and modern psychology. Thought is not a heap of shreds and patches, a whole made up of previously separate parts, but a single, differentiating organic process. It is not the sum of its parts, but their source no less than their end. One in its most primitive form, it gives rise to its ele-

ments, though never losing its essential unity in them. It grows by differentiation, as does a plant or an animal; not by aggregation, as do inorganic substances. Thought, in fact, is this growth, this movement, not in any sense a substance or a thing.

Passing from one mind to another it becomes visible, tangible almost, as language. Language is the tracing of this mental activity, "representing" it thus in no mechanical sense of remote correspondence in a different world, but as the same activity traversing another medium. It cannot, then, be a dead, fixed thing, a form dissociated from its function, but a living process, requiring intelligent scientific observation under normal conditions. The day of dried and pressed specimens of language as material for serious study is over. Our profounder knowledge of mental phenomena has finally discredited all investigation of the phenomena of language on a purely formal basis.

We come, then, face to face with the foundations of English grammar. It rests upon some definite conceptions of language-function and language-structure, the former ultimately determining the latter. The function of language as thought-communication is a faith all but universally professed, though at times it may be with the lips only. There is no such agreement as to the structure of language. To some writers it is essentially organic, to others inorganic or mechanical; the difference referring directly to different notions of the structure of thought itself. One conception of language-structure or the other is, however, conveyed by every text-book to its readers and by every teacher of grammar to his pupils. It therefore behooves the teacher to examine his foundations, to determine with his best intelligence their stability, and to upturn them ruthlessly if they are, in his judgment, unsound.

The final test of their soundness and adequacy lies, of course, not wholly within the field of grammar itself, as popularly understood. The act or process of communication by language furnishes the peculiar subject-matter of rhetorical and philological, as well as of grammatical, study. It must be investigated also by workers in the fields of psychology, real logic,

æsthetics, and sociology. The conclusions reached in this larger and at present more disinterested study are bound to serve as touchstones for the fundamental conceptions of grammar.

When thus tested and thus established, the conceptions of the function of language as essentially social and of the structure of language as essentially organic should manifest themselves consistently throughout the teaching of English grammar. How this may be done is, indeed, the present problem. To define the parts of speech in terms of sentence-function instead of sentence-anatomy, to refer each rule for sentence-structure to the process of communication rather than to some apparently arbitrary traditional pattern — all this is necessary theoretically, but has not yet been practically demonstrated. Such demonstration is, however, inevitable, and cannot long be delayed. It must be hastened by every honest effort to face the implications in our present teaching of the subject and bring them to the test of our profoundest knowledge of the language-process.

GERTRUDE BUCK.

VASSAR COLLEGE,  
Department of English.

## A PLEA FOR OUTLINE DRAWING FOR LITTLE CHILDREN.

WHEN we who are now adults were little folks at school, we were set to draw ornaments from the flat in outline with a hard pencil. First we were allowed to sketch the design in loosely and lightly, but the moment came when we had to lay all experiment aside and draw it in boldly and carefully with a hard and unswerving line; "lining in," it was called. The painful memory of it clings to us yet.

We were next initiated into the mysteries of light and shade. A plaster of Paris cast was put up before us to be copied from. The cast was often soiled so that it was with difficulty we could make out the real shadows from the seeming ones. We had often to determine the place of the high light by wetting the prominent parts. Our drawings thus were executed with difficulty, and were, as you see, partly ideal, as we attempted to carry the gradations of light and shade farther than our eyesight or the condition of the cast would properly allow. Many of the drawings, when this was pushed to an extreme, came to resemble polished metal rather than plaster of Paris.

Success in this art meant further promotion to "still life"—to color; the painting of pots and pans and vegetables. When we reached this happy point, we looked upon ourselves as full-fledged artists.

The full sum of our ambition, however, was to paint a portrait. From a potato or cabbage to a human face was hardly a step at all. Our sitter had but to dehumanize himself or herself, banish all movement, and with it expression, which is but the movement of the face, reduce himself to still life, and we knew how to deal with him. Our education never aimed at more than this. Outside of school hours we made little irregular excursions into the country to sketch from nature, but this was not recognized as part of the school work, and it never amounted to much in any case.

Nowadays the public schools would upset all this, reverse the whole process, and begin where the old system left off—with the landscape. We have not quite made up our minds about the life-class. We look askance at plaster casts, and as for drawing from the flat, that is our *bête noire*. The child must now work with the brush, and all inclination toward outline must be stamped out as vice. He must work in *mass*.

What is this "mass drawing" that is talked about so much and so vaguely? It is not merely drawing larger or in a ruder way as opposed to painstakingly close and cramped work; everybody is now agreed that the little child should be encouraged to draw in a big, free way. The phrase is meant to suggest a sketchy manner—hit or miss—and is opposed to the working-drawing style in which things must show their articulations clearly, the contours admitting no hiatus. Nor is it drawing in well-defined silhouettes of color ("poster" effects, to use a vulgar word); as the phrase is used, it implies light and shade or the representation or suggestion of the third dimension. It seems to me that the phrase "mass drawing" involves two things closely allied to each other: (1) sketchiness, a touch-and-go manner distinguished from the tracing of contours; and (2) the representation of the third dimension = modeled surface = light and shade.

I shall attempt to show that we must not expect to find these characters dominant in child drawing, and that where they do occur they are not to be unconditionally encouraged.

We hear it said today that mass precedes outline. If that means that modeling comes before drawing, that it comes more naturally to the beginner, we agree. It is a more direct process to represent form by actual form than by lines and tints and shades. It is direct copying in the one case, and in the other case translation from the terms of three dimensions into the terms of two dimensions.

Drawing is always to some extent abstract. For this reason sculpture outruns painting in the earlier stages of art history. It reaches a high development, while the painting yet remains crude. Take the art of the Egyptians for an example. Compare



their painting with their sculpture. It is crude and conventional to the last degree. Witness their habit of drawing the human eye in front view, while the other features are seen in profile. Everywhere the Egyptian artists are hampered by the greater difficulty of delineation, and turn and twist things about till they get them into a convenient position to draw. They place the human body with the head in profile and eyes in front view; with the chest in front view and arms and legs in profile; the waistband again in front view, although the limbs are seen from the side. Their drawings remain almost barbaric in their simplicity, while their sculpture in its best moments almost rivals that of Greece. What it wants in movement it makes up in monumental repose. Here there are no anomalies. The artists achieve the ends they proposed to themselves, restrained it may be, but never thwarted or diverted from their purposes by the difficulties of their medium.

So with Greece, the sculpture far outruns the painting. There are vague stories of the miracles of Apelles and Zeuxis, but these we are not inclined to take upon trust. They are probably grossly exaggerated. If Cimabue's Madonna had perished, we should have had a similar story in more recent times. The Italians enthusiastically proclaimed that Cimabue rivaled nature, but his picture seems a poor, flat, unreal thing to us today. We prize it for quite different reasons from those to which it owed its popularity with the people of that day, for its still, sad nobility of expression, which it shared no doubt with many pictures of its time.

The only things that we have to go upon for Greek painting are one or two late Greek daubs done by common house-painters on the walls of Pompeii and the vase paintings. These latter are very important art works, though they cannot take rank with the best sculpture, and are done by very accomplished and reputed artists. They cover, too, a wide period of history. It would be an interesting inquiry to make a comparison between them and contemporary sculptures.

Now we know that the sense of form among the Greeks was carried to a high degree of refinement. Here, if anywhere, one

would think, were artists who would not be satisfied with rude outlines in lieu of modeled surfaces. Their sculptures were carried into the greatest detail; every swelling muscle and rounded bone was given with sufficient, and no undue, emphasis. These sculptures are models to us today.

Now let us turn to their paintings: black, flat figures on a red ground; or brick-red flat figures on a black ground; or black or brown outlines merely on a light ground in violent contrast; no modeling whatsoever anywhere; wiry lines for all the internal markings of the figures, wiry outlines bounding all the forms.

How can we explain this anomaly? It is only to be explained by the *difficulty of representation upon a flat surface*. This is sufficient to balk the continued efforts of man for thousands of years.

Nor did any artist succeed in grappling with the third dimension in painting till late in Greek times. And on the fall of the ancient world the new acquirement was lost again for one thousand and five hundred years. The whole primitive, ancient, and mediæval world knew nothing of "mass" drawing. Outline filled in with flat bright color was the full extent of their scope.

Mass-drawing is thus seen to be a *modern art, the product of an advanced stage of artistic culture*. Even when it did come, it did not displace the outline, but lived peaceably side by side with it down through Renaissance times till our own day. Michael Angelo, preoccupied with modeled surface as no other painter has ever been, still retains the outline, and emphasizes and detaches his form by its means. The modern impressionists are, indeed, the first in history to do away entirely with the bounding line.

Edouard Manet, some forty years ago, was the first clearly to see that objects are relieved against each other as lighter or darker patches; the first clearly to distinguish his visual from his tactual percepts, and to eliminate the tactual.

This is impressionism, the expression of visual images without modification by tactual images. If Manet had been studying from the stained cast with us, he would not have cared to ask what was stain and what was shadow; if they looked alike to him they were the same.

Let me contrast Greek art and this modern picturesque art. The Greek was occupied with form. He loved the untrammelled form, preferred the nude, and treated drapery in such a way as to exhibit the figure. The horse even was divested of his trappings. Everything was arranged so that the tactual sense of the artist and of the onlooker should have the fullest exercise. The eye, the hand, could caress every shape. The modern schools do the opposite of this. Everywhere the form is broken, as in nature, with a hundred accidents. Things are at cross purposes. The form is interrupted by the drapery. The drapery is interrupted with pattern, with cross and shifting lights. Landscape (Turner) and cathedral (Joseph Pennell) are veiled with changing light and shadow and soft envelopes of air, so that here the shape appears for a moment and again it is lost. Modern impressionistic painting gives nowhere any satisfaction to the tactual sense, but everywhere constant play and pleasure to the visual. "This study of appearances and the effort to render them come late in the history of art," says Hamerton. "The complete knowledge of appearances is the sign of a very late state of civilization, implying most advanced artistic culture both in the artist and the public to whom he addresses himself."

We cannot expect the child to do what the most advanced artist could not do half a century ago—namely, distinguish his visual from his tactual perceptions. We cannot expect him to be an impressionist, and must be content to let him lag a little behind the artists of the time and begin somewhat farther back; not troubling much about light and shade, atmosphere, perspective, linear or aerial, and effects generally; gradually learning something about the shapes of things, and not worrying overmuch about their appearance. Perhaps the very tiniest little ones may begin even farther back still, with a kind of picture-writing which does not make any very serious attempt at representation at all, but is almost frankly symbolic. We must ask how far the individual student must recapitulate the art history of the race. That is a question that has never seriously been discussed, and it seems to me one that we might attempt to deal with now.

Let me essay to sketch that art history in a broad way, and it is only these broad characters that need immediately concern us.

We may roughly divide art into three periods, which we might call "early," "middle," and "advanced." In the first the art of savages and primitive folk, Mexican manuscripts, red Indian drawings, Egyptian papyrus and mummy cases, Greek vases, mediæval manuscripts, etc., the forms and colors are conventional. There is much pattern, often great decorative splendor. The technique is always outline filled in with pure, bright, flat color. Primitive art is picture-writing, story-telling. It is symbolic—that is, full of meaning, almost nothing but meaning.

When we come to the second stage, represented by Greek sculpture and Renaissance art, both painting and sculpture, we find a growing regard for construction, proportion, and modeling (= in painting light and shade). Ornament is used sparingly and is much subordinated. There is little or no color. The subject-matter is still important, though not so all-important as before.

The third stage—which we may call "modern," though there were suggestions of it in the Venetian painting of the later renaissance—is marked by broad effect (Barbizon school); by devotion to superficial aspect (Bastien Lepage); there is no outline (Manet, Monet, Sisley) and little modeling (Lepage); considerable regard for tone (Carrière, Henner), and for effects of light (Manet) and atmosphere (Roche). The subject does not matter.

Though in the past these periods have succeeded and largely obliterated each the preceding one, there need have been no necessary antagonism. Each might have come, not to destroy, but to fulfil the other. This will be the task for the painter of the future. Saving all the decorative splendor and depth of meaning of primitive art, he will add to it the scientific exactness of statement of the middle period, and to that again the grace of the lighter touch and broader handling of the moderns.

And the little folks come into this technical tradition of the past, but they must make it their own in a definite order and sequence, it seems to me.

We have seen, then, that mass-drawing is impressionistic drawing; that it has come to the schools from the studios of Paris, and that it represents a very advanced and late stage of artistic seeing.

The impressionists themselves in their youth worked in a very different way. Degas, for example, one of their leaders, painted, as, indeed, did Corot and Turner, in a very detailed and exact manner, arriving at his broad style late in life. There seems to be a natural process of development here.

As we saw the race advancing through a long period of close constructive drawing to the rendering of the aspects of things, from the expression of knowledge of local form and color to the mastery of appearance, so we can trace the growth of the individual artist through a stage when he is making an exact inquiry into the anatomy of form and color, till he reaches the point when he can add the last grace of surface shimmer.

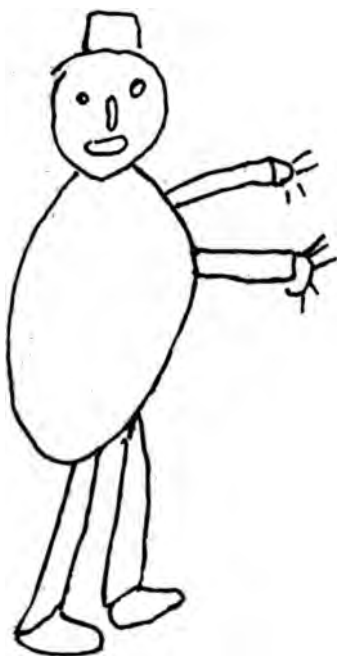


FIG. 1.

If we attempt to force the student to render these effects, textures, and qualities before he has got a good grasp of structure, his natural growth is arrested. He is lost in the complexities of seeming, and has no clue to the mysteries of form. His work is blotchy and vain. This is the error that has crept into the schools.

There are no outlines in nature. What is outline? It is a line drawn around the contours of things defining the limitations of the form—the boundary line of the mass. The child, when he draws his symbol of a man, does not think of the line. In drawing the almost circular body with a sweep of his hand, he is drawing a portly man, and that is his embonpoint. He

is thinking of the bulk of him. There is a recognition of the mass, though the third dimension is not grappled with.

I believe the child, after he has passed through the scribble or purely symbolic stage, comes to something like our diagram. He states a few of the facts about the human form. This grows by the addition of more facts into some semblance of the form. This process should be continued until we have the drawing of a Leonardo.

Little by little some attempt may be made to deal with the modeled surface. The nose in front view, rendered by lines, is never satisfactory. It cannot be made to project without some gross anomaly, either by putting it to the one side or the other, or up, or down. And the eyes are expressionless unless there is some suggestion of the projection of the brows, and this can only be done by darkening the space under the eyebrows. The line of the underlid, too, asserts itself too much and must be suppressed or eliminated altogether. So, instead of the arrangement shown in Fig. 2, we have that of Fig. 3, the upper lid darkened to suggest that the eye is set in, instead of on, the face, and the under lid taken away. I think I can remember my own first experiments



FIG. 2.



FIG. 3.

in shading, and that the nose and the eye first made the demand upon me for a fuller method of representation than mere lines could afford.

So the power of representation grows; at first a shadow hinted at here and there, though the greater part of the drawing is in outline or in flat-tinted spaces. By and by the student sees the half-lights and nuances of shade, and his drawing grows to fuller and fuller realization; and at last he may dispense with the outline altogether.

The first great advance is made by the child when he emerges from mere scribbling to some sort of definite statement of the form as he conceives it. "The child's difficulty at this period seems to be the struggle to subordinate the motor elements to the visual elements. Only when the latter are in control of the former can the child really draw." Here everything that makes

toward scribbling must be regarded as a danger. While drawing is a severe exercise of the intellect and will, scribbling is the expression of vacuity of mind and purpose.

The rendering of tone—making the coat or hair black, for example—is best done with the brush. The flapping of the pencil backward and forward in fatuous shading is a kind of dissipation and leads back by an easy road to scribbling. We have seen drawings not a few by upper-grade children who have lapsed in this way, covering foolish drawing with a pretense of clever sketchiness and with cheap effects of tone. The teacher should help the child to clarify and define his ideas and his style, and discourage the use of subterfuges and lazy short-cuts. Of course there is a danger of quite an opposite kind to be looked out for as well. The little one may arrive at a convention that is satisfactory and definite enough as far as it goes, but does not go far enough, and may repeat this convention indefinitely, making no advance upon it. Here the teacher must enlarge the pupil's conception of things and stimulate the development of his conventions.

Some would have us believe that children begin with outlines because these are the natural outcome of the material they have to work with. The pencil is given into their hands, and they can draw lines only with a pencil. That argument would not explain the use of outlines by primitive peoples. They could more readily get colored earths and dyes than sharp points to draw with, and yet we find that they set about inventing them, and drew their outlines, and would be satisfied with nothing else. And, after all, a pencil can be used to get impressionistic effects. It can be employed to express surfaces and textures and qualities, if the artist especially cares for them, no less than it can silhouette. See the work of Charles Keene and Joseph Pennell, for instance. A still harder instrument, the etching needle, is the favorite tool of the impressionists. Invented by Rembrandt, an impressionist before his time, it has been used long and lovingly by tone artists like Whistler and Haden.

The use of outlines is not, however, confined to primitive folk and children. Artists who have acquired the technique for the

presentation of the most advanced knowledge of form often employ this method of drawing. Turner, the very fountain-head of impressionism, "whose chief virtue and skill in his finished works seemed to consist in losing it," drew in outline constantly. Ruskin, who arranged and classified the water-color drawings of Turner for the National Gallery of London, states that Turner made at least a hundred drawings in pencil outline for one that he touched in color. He goes on to say:

Nor is it ever possible to distinguish any difference in manner between outlines intended for color, or only for notation. In every case the outline is as perfect as his time admits, and in his earlier days, if his leisure does not admit of its perfection, it is not touched with color at all. In later life, when, as he afterwards said of himself, in woeful repentance, "he wanted to draw *every* thing," both the lead outline and the color dash became slight enough, but never inattentive; nor did the lead outline ever lose its governing proportion to all subsequent work.

Further on he says:

I have therefore given you this plate not so much for an immediate model as to show you the importance of outline even to a painter whose chief virtue and skill seemed, in his finished works, to consist in losing it. How little this was so in reality you can only know by prolonged attention, not only to his drawings, but to the natural forms they represent.

In another place he says, speaking of the same master:

It was commonly thought that he was great only in coloring, and could not draw; whereas his eminent distinction above other artists, so far as regards execution, was in his marvelous precision of graphic touch, disciplined by practice of engraving, and by lifelong work with the hard pencil-point on white paper.

The most advanced artists use outline in the earlier stages of their work—in the planning of their pictures, I mean. Their first sketch is usually a pencil jotting. Among figure painters the practice, I may say, is universal. See the sketches of Raphael, Michael Angelo, Leonardo da Vinci, or in our own time of G. F. Watts, Burne-Jones, and Puvis de Chavannes. Why do they do so? Because this method is most economical of time and material. With a stroke of the pencil they can convey more than with many dabs of the brush. One can make some semblance of a man without lifting the tool from the paper, running around the edge of him.



And here, I think, we come upon one of the strongest reasons why children and primitive folk use outline. They want, in the intensity of their impulse, to get at their ends by the readiest way. They do not have time to begin in the center and work out carefully to the edges; they cut out the forms in the quickest way, and that is by running their pencil line around them, filling them in afterward, when there is leisure to give to less vital matters, adding the splendor of fine color.

Little children, then, should be allowed to draw outlines because —

1. They are unable to grapple with the third dimension and can get on very well without it. To insist upon it is to balk and befuddle them, and so stop their genuine expression at the fountain-head.

2. Their proper progress is toward more defined statement, and outline drawing calls for that, every touch meaning something particular, whereas tone may stand for either local color, texture, light and shade, or atmosphere, or something altogether vague and silly, and the young artist's intention is unreadable because unmeaning — "signifying nothing."

3. Outline drawing is the most direct and economical mode of drawing, and lends itself best to the hot impulse of youth and creative genius.

JOHN DUNCAN.

THE UNIVERSITY OF CHICAGO  
School of Education.

## SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS.

### IV.

SCIENTIFIC research into the nature and value of foods is not yet sufficiently developed to enable one to make positive statements regarding the effect of specific foods upon the development of the individual even at the present time. To attempt to make such statements regarding the effects of food upon the river-drift man would be still more hazardous. Yet it is possible to determine, within certain limits, the general effect of the foods of that age and the effect of the occupations by means of which food was supplied.

The energy required to meet the constant demand for muscular activity, the loss of bodily heat through lack of clothing and shelter, the excessive burden placed upon the body in digesting the available foods of that age—all united in making a heavy drain upon the low and irregular supply of energy that man was able to secure from the consumption of available foods. As long as man depended upon vegetable foods chiefly, he probably suffered as much from the necessity of consuming enormous quantities of coarse, hard, and tough foods as he did from irregularity in food supply. This fact alone, even though it were not supported by facts derived from the study of contemporary tribes, is sufficient to convince one that the digestive system of the river-drift man was relatively larger and more powerful than that of civilized man. Yet, in spite of this, the burden placed upon man's digestive system during the age was such as to leave little surplus energy to be devoted to any activity not essential to maintaining life on a plane but little removed from that of animals. The difference between man and the animals, though slight, was of the greatest importance. Man was sufficiently like the animals to begin the work of conquering them, and sufficiently unlike them to be able to reorganize his habits with

reference to advantages that he had perceived. A powerful jaw, strong teeth, and large ridges for the attachment of muscles were more significant than a great brain capacity, as long as man was destitute of implements to crush and grind food, of fire to cook it, and of tools by means of which he could apply his energy in the most economical way. Even though man's activities were devoted almost exclusively to supplying food and escaping from enemies, so great was the variety of food that he instinctively sought, and so diversified were the habits of his enemies, that in order to survive in the struggle for existence he was obliged to acquire facility in a great variety of activities. In this way man secured a physical development that was checked only by the fact that his supply of energy was low and often irregular.

If by intellectual development is meant the development of intellectual activity as an end in itself, man of the river-drift period was deprived of it. The conditions of his life did not permit him to expend energy in ways that did not yield very immediate practical results. He had no formulated knowledge. The knowledge that he possessed was embodied in his habits, which, originating in instinctive activity, gradually came under more conscious control. That man's habits functioned chiefly with reference to the need of food and protection was an inevitable consequence of the conditions of the age. Yet the elements of his environment by means of which these needs could be supplied were so diversified that man became marvelously sensitive to a great variety of stimuli. Alert to all that concerned his welfare, it mattered little that he appeared stupid with reference to all else. The needs of the present did not permit man to project the end of action into the future. He wanted food to supply a present hunger. So completely was man occupied with the needs of the moment that there was little opportunity for reflecting upon experiences of the past or of forecasting the future. Had man been more like the animals than he was, he would probably have remained absorbed in the activities of the present. It was due as much to his failures as to his successes that he was enabled to work out a method

of escaping from the bondage of the present moment, for he felt no need of analyzing the process as long as he was successful. But when food failed, man became conscious of his own weakness. Attention was thus directed to the inadequacy of the means for the accomplishment of the end. Under the stimulus of hunger man was prompted to make use of associative memory. Perhaps the suggestion came from the memory of the way in which the tiger used his teeth or claws, the urus its horns, or the wild horse its hard hoof. Such phenomena would doubtless have escaped his attention if he had not stood in need of the lesson that they conveyed. Certainly it would never have occurred to man to take a suggestion of this kind for the mere sake of improving his industrial processes. But under the stress of hunger he becomes conscious of his own weakness and alert to seize every opportunity for supplementing his own powers. But it must not be supposed that even the most pressing necessity would be sufficient to induce man to pass directly from the use of his bodily organs to the manufacture and use of tools. A great advance was made when man first consciously recognized the inadequacy of the means to secure the end, and when he restored the balance by making use of *natural forms* as tools. The modification of natural forms, so as to secure more adequate tools, marks a much more complicated and indirect mental process. It is not surprising that only faint beginnings of this art were present during the age in which the river-drift man lived, for rapid progress is not a characteristic of the early stages in the development of a people. The rapid physical growth, the early development, and the industrial independence of each individual from a very early age tended to secure fixed habits exceedingly difficult to modify; hence the conservatism so characteristic of primitive people.

Man's attitude toward nature has always been influenced by his manner of securing food. The river-drift man assumed a hostile attitude toward plants and the lower forms of animal life. The fact that he refrained from attacking the larger animals was due to his fear of them. They were objects of terror from which he fled. Yet, in spite of this fear, he instinctively felt a kinship

with these creatures. The mingled feelings of fear and kinship found expression in a system of nature-worship which has had a profound influence upon all succeeding stages of culture.

Perhaps the most valuable moral lesson of the age was that of learning to refrain from purely instinctive action. This lesson was learned under the stress of necessity. Only by lying in wait for the smaller creatures could man secure the much-needed animal food; only by inhibiting his impulse to rush into the conflict could he avoid becoming the quarry of the larger beasts of prey.

It would be unwise to assert that man's lack of courage at this time was due to the fact that the greater part of his food was supplied from the vegetable kingdom; for it is not known positively but that vegetable foods are as valuable in producing bodily strength, physical courage, and acuteness of intellect as animal foods. But it is evident that the low state of nutrition would affect man's emotional nature in such a way as to render him exceedingly irritable. Violent outbreaks of temper so characteristic of the childhood of the individual and the race are traceable in most instances to defects in nutrition.

The occupations of the river-drift man belong to the stage of the individual search for food. They can scarcely be characterized as social.<sup>1</sup> Each individual was concerned in securing his own food. There was no social stratification and no division of labor. People were scattered over widely separated areas, coming together only as social instincts common to the lower forms of animal life prompted them to meet. The family at this time consisted of the mother and child, the father being but loosely attached to this primitive group. The helplessness of the child found its counterpart in the love of the mother, who amid the hardships of the times found ways of caring for her child. Until the child's digestive organs were sufficiently developed to enable him to digest the food that she could find for him, she nourished him with her own milk—the most perfect type of food yet known. Gradually she supplemented this food with the most

<sup>1</sup> In connection with this statement read an article by PROFESSOR W. I. THOMAS, entitled "On a Difference in the Metabolism of the Sexes," in *American Journal of Sociology*, Vol. III, pp. 59-63.

nutritious and tender forms that she could find, and paved the way to the use of tough foods by chewing them until they were reduced to a form that the child could digest. As the child grew, the mother taught him to find the choicest foods that the environment supplied. When he gave evidence that he had learned the lessons, she allowed him to depend upon himself. The dependence of the young child upon his mother tended to unite them for several years. The fact that the child early became independent of his mother prevented the continuance of this relation. The early independence of the child was not so much a matter of choice as of necessity, for as soon as the mother had another child to take care of the older one inevitably was obliged to depend upon himself. The child was thus ushered into the responsibilities of adult life at a very early age and grew old prematurely. Few people among early savage tribes live to be old. This is due not merely to the tragedies resulting from their natural environment, but to the lack of social organization, and hence of any means of providing for the care of the sick and aged.

Until man learned to use fire, conditions were such as to prevent the formation of regular habits of co-operation. For a long time after its conquest people were united, not by forces within the group so much as by a common fear and a common means of protection. So powerful a force is conservatism among savage peoples that there can be little doubt but that the river-drift people followed the habits formed during the stage of the individual search for food long after some of the conditions for co-operative action were secured. The preservation of fire, however, made an imperative demand for one form of division of labor; and since it was more convenient for the women who were burdened with young children to search for food in the vicinity of the camp, they became the guardians of the fire while the men searched for food in more distant regions. It has been suggested that the differences in nutrition resulting from this division of labor between the sexes would in the course of long ages account for many of the physical differences that are now quite marked.

With the use of fire the women and children undoubtedly labored in common a greater part of the time, enjoying the advantages that come from social conversation. Real co-operation in the same process in time of need was a gradual growth which was fostered by association and by the perception of advantages gained in occasional instances of spontaneous co-operation. The instinctive craving for flesh no doubt added its weight to the effect of social conversation and pantomimic representations by the fireside at night, thus facilitating the co-operation of all of the members of the group who were free to participate in hunting the larger animals. But the old habits were strong, and it took many long years to modify them sufficiently to secure effective co-operation in hunting the larger animals. When that was accomplished, we have passed from the age of the river-drift man to that of the early cave-man.

In attempting to make use of the materials of the past, it must be remembered that they have no real significance unless related to present interests and activities. Unless the past can be made to live in the present, it may well be forgotten. This is as true of the history of our most civilized nations as it is of the generalized accounts of the Pleistocene and prehistoric periods. This fact makes it imperative for one who would make a genuine application of the materials of those remote times to consider carefully the points of likeness and difference in the attitudes of primitive man and the child, and to suspend judgment until account is taken of the nature of the conditions which in each case give value to an act and determine the form which it shall take. Since the teacher is the one who makes the real application, it is important for her to take these points of likeness and difference into account. The principal, the supervisor, the author of the text may render a more efficient service by such a knowledge than would be possible without it; but the teacher, by virtue of the nature of her work, must, consciously or unconsciously, incorporate these truths in her daily work.

Before suggesting ways of making use of the materials presented, it may be well to consider more specifically some of the

factors that were referred to in a general way in the discussion regarding the principles of selection. By so doing it is hoped that the teacher will be better able to adapt the problems that will be suggested later to the needs of the situation in which she is placed, or to make new applications of the materials presented.

The mental processes of the child and primitive man are similar in several respects. In both they are characterized by a very direct mode of response to stimuli, little or no separation between means and ends, a minimum of inhibited action, an almost complete absorption in the present, little reflection upon the past or forecasting of the future, ready shifting of attention, inability to maintain attention unless supported by a personal interest in the object of the activity or by the power of rhythm, and a distaste for intellectual activity.

Racial development during the river-drift period finds its counterpart, in several respects, in the development of the child during later infancy. The pre-tool period is a term that very well characterizes this stage of development. With both the child and the race it is a period largely occupied with acquiring the mastery of the larger physical co-ordinations. It is a period of practical activity from which separate interests have not yet emerged. Processes are still simple and direct. Tools are the organs of the body or these supplemented by such forms as can be found on the spot. It is a period in which use is made of the materials and tools that the environment affords, but only the faintest beginnings are made in changing their shape.

The attitudes of the child of seven are more nearly represented by the activities of the race when it had made some progress in making and using tools. With the power to adapt means to an end, processes are more indirect. Interest is manifested in the process itself, and in ends projected into the immediate future. This change in mental attitude in the child is a sign that he is able to make a conscious use of the experiences of others. It marks the dawn of the historic sense.

KATHARINE E. DOPP.

THE UNIVERSITY OF CHICAGO.



## GEOGRAPHY AND MENTAL IMAGES—AN EXPERIMENTAL STUDY.

NO ONE thinks nowadays of teaching geography by the old catechetical method in use fifteen years ago. What was formerly a valley of dry bones through which the child wandered drearily, picking up a dead definition here and there, has blossomed into a broad and beautiful field which teems with things full of interest to the learner. Instead of beginning with the abstract definitions belonging to logic, we now begin with the concretest thing possible to the child—his already accumulated experience on the one side, and on the other its counterpart, the environment out of which his experience has grown. No longer seeking the remotest possible point from the child for a beginning, we now find in his own immediate interests and occupations the best vantage ground. And, what is not less significant, we have come to see in the social interests and occupations the beginning of *all* education, and hence to realize that only as geography has a social basis does it find its true point of departure.

Geography is primarily not a thing to be learned, but something to be experienced, for the first subject-matter of geography is the immediate environment of the child. It has been said to be the study *par excellence* for training the imagination. But this is true only when, and in so far as, it first trains perception. Nothing ever enters the imagination all the elements of which have not been present in perception. Nor is a memory image ever clearer and more perfect than the original perception. It is fortunate if it even approximates the perception in vividness and lifelikeness. Even granting clear perceptions and vivid memory images, the imagination may still be faulty through a failure to utilize the images already at hand in the construction of new ones. The fact that we have shown the child a two-by-four mud puddle with an isthmus doing duty in the middle of it is not a safe warrant that he has a clear notion of an isth-

mus; it is not a safe warrant even when our device is supplemented by calling attention to the fact of the striking analogy to be found in the case of the human body, where the neck connects the head and the trunk! Neither can we assume, after the child has molded a relief map showing the plains, hills, and mountains, or even after he has seen hills of some two hundred to three hundred feet—which is about the limit in the Mississippi valley—that he has more than the faintest and most inadequate idea of a mountain. Likewise, the black streaks on the map which are meant to represent rivers may still be but black streaks and nothing more to the boy, although he has fished, and waded, and swum in the real river. He may fail to make use of his past experiences in the formation of new images.

No doubt the child's first images are more or less crude and imperfect from the very necessity of the case, resting as they do on a very limited experience. He cannot be expected to know a mountain as an Alpine guide knows it, or to understand a coast line as a navigator does, until he has had at least a measure of their experience. This is a stage of mental development through which all must pass, but the question may be raised whether there are not too many cases of arrested development at this stage.

In order to prevent or correct wrong images, or to induce the formation of a greater number of richer and more complete ones, the first step necessary is to discover from the child the images he already has on hand, or, as President Hall would say, to find out the "contents of his mind." A conviction of this truth led the writer to undertake a study of the children in elementary schools as to the nature of their mental images in connection with work on certain topics in geography. The character of the test to be employed was determined by suggestions from Professor John Dewey, of the University of Chicago.

Fifth, sixth, and seventh grades in the public schools of Chicago and Denver were selected for the test. Replies were received from 386 children of both sexes in Chicago, and from 52 in Denver, making a total of 438. The teachers of these grades were requested to give the following questions as an exercise in Eng-

lish, the children not knowing that it was other than a class exercise :

1. Is an island like a hill? Tell why you think it is or is not.
2. Which is higher, a mountain or a tall chimney? How much? (The teacher to mention some tall chimney known to the school).
3. Is an isthmus like a strait? Tell why you think it is or is not.
4. If all the water in lake Michigan should dry up, what would you see where the lake is now?

In response to the first question, 62 per cent. answered negatively, 30 per cent. affirmatively, and 8 per cent. were doubtful. Seventeen per cent. expressed the idea of the island's extending below the surface of the water, 16 per cent. gave a formal definition of "island," and 14 per cent. of "hill." Thirty-one per cent. said that the difference is that the island has water around it, while the hill has not ; 19 per cent. thought that the difference lies in the fact that the hill is higher ; and 11 per cent. thought that the difference is in the greater slope of the hill. The best answers were given by the seventh grade, and the second best by the fifth grade. As an illustration, the idea of the part of the island below the surface of the water was expressed by 23 per cent. of the seventh grade, 16 per cent. of the fifth grade, and 12 per cent. of the sixth grade ; resorting to formal definition of "island," seventh grade, 10 per cent.; fifth grade, 16 per cent.; and sixth grade, 33 per cent.

But few indicated a complete misconception of a hill or an island, but many showed that their image of one or both was very incomplete and inadequate. The following are taken from the answers :

- A hill is a pile of earth covered with brush and trees.
- A hill is on the ground, but an island is not.
- An island is not like a hill, because it is not round on top.
- An island is round, and the four sides slant.
- An island is not hilly, because it is a forest.
- An island is like a hill, because it is higher in the center.
- An island is like a hill, because it is fastened to the water, and extends up above the water.
- An island is round like a ball.
- An island is not like a hill, because it is a little swamp guarded by rocks.

An island is a little bit of dirt piled up.

An island has no grass on it.

An island is like a hill, because the top comes first.

An island is like a hill, because it rests on the water like a hill rests on the ground.

An island is land pushed up by the water.

In answering the second question, there were 9 per cent. who estimated the chimney as higher than the mountain, and 9 per cent. who were doubtful, while slightly more than 40 per cent. gave answers evidencing an inadequate conception of their relative heights. Of course, judging on the last point is more or less an arbitrary matter, but the child was given the benefit of the doubt where the language left any question. A good many said that it depends on the size of the mountain. All these were classed as not having an adequate conception of the difference. It is recognized also that some of the difficulty in expressing the difference in the heights may be from the fact that the child has not a proper conception of number, instead of being altogether lacking in his images of chimneys and mountains; for even the Colorado children, who are constantly within sight of mountains, will say that a mountain is from fifty to two hundred feet higher than a chimney. But after making all due allowance for this fact, it would still seem safe to say that very few, if any, children who have never seen a mountain have any real notion of one. Many said that the mountain is higher by two, three, fifteen, or one hundred feet. One says that the mountain is higher, "for it is raised some every year." Others say that if the mountain went straight up like the chimney, it would be the higher, but since it slopes, the chimney is the higher. Here again the fifth and the seventh grades did better than the sixth.

The replies to the third question showed 51 per cent. who thought that an isthmus is not like a strait, and 25 per cent. who thought that it is, and 24 per cent. who were doubtful. Of those who said that they are not alike, 31 per cent. volunteered that the difference is that the one is land and the other water. An average of 27 per cent. showed a misconception of one or both, the greatest misconception appearing again in the sixth grade, where it was 32 per cent. The large number of defini-

tions attempted here is also suggestive, an average of 42 per cent. for all the grades—being 39 per cent. in the fifth, 50 per cent. in the sixth, and 35 per cent. in the seventh grade. That many were relying on formal definition instead of their images of the things themselves is shown by their getting the definitions of "isthmus" and "strait" confused, and some even giving the definition of "cape" instead of "isthmus."

In response to the fourth question, 35 per cent. said that if the water in the lake should dry up, they would see such things as fish, dead bodies, lost ships, shells, plants, rubbish, etc., etc. Forty-nine per cent. mentioned the broad expanse of the lake bed which would be left exposed, and 32 the deep hollow or depression which would be left. Here again the sixth grade fell behind both the others in the fulness of their answers.

It is manifestly impossible in this question to measure the amount of misconception where any occurs. The following extracts are suggestive, however, some of defective images, and some of very vivid ones:

It would be shallow.

Cannot get this one.

Hole so deep would be left that you could not get out.

One could then see Michigan.

There would be left the shape of a great pan.

Hills would be where the islands are now.

The sand would smell very funny.

We would see millions of fish gasping. Would see a large hole with sand and rocks at the bottom.

We would see in the distance a dark body, which, on approaching, would turn out to be a wreck in which would be found dead bodies.

We would see broken pieces of ships, provisions decayed, fishes of all kinds lying around, a great many men and women and children, hills and valleys, long and narrow basins looking like little rivers, basins looking like lakes, and what looks like large plains.

It would look like a bath tub.

We could see all the banks and the piers caved in. Would see a field with cattle grazing, or a mining town.

There would be a sandy, hot, dry place.

You would see —, but it is not likely to dry up.

You would see the boats way down below, and the tunnels and cribs that make and pump the water to the big water stations.

There would be great piles of rocks left by the glaciers, and cliffs hundreds of feet high.

A basin as deep as the tallest chimney in the world, and fishes flapping around.

Some of these answers were repeated in different ways many times, and an especially large number spoke of the desert which would be left.

While the number of papers examined was not as large as could be desired, yet it seems safe to draw a few conclusions, especially on the points where the evidence seems to agree quite completely.

1. *Too much is taken for granted by the teacher in the matter of children's images.* More attention should be given to developing a method of teaching which will lead the child constantly to clarify and enrich his images by reconstructing his past experiences in the light of his present. He should utilize the images he already has in the formation of new and more perfect ones.

2. *The individual differences of children in the matter of their mental images should be taken more into account in teaching.* The difference of mental content between the rich and varied stock of images on the part of one child and the limited and meager supply of another makes a fundamental difference, not only in the subject-matter suitable for them, but in the method of its presentation as well.

3. *Perfect images cannot be built on imperfect perceptions.* The child who has never perceived that an island really extends below the surface of the water will hardly have a clear image of that part which is out of sight. Nor is it enough to have the clear perception; there must be clear and frequent recalls of the object by means of the memory image, and the image must also be applied in some definite way in the acquisition of new knowledge; else it becomes so much lumber in the mind.

4. *Children at this age are slow in generalizing the particular illustrations which are presented to them.* A number defined "hill" as a pile of dirt with trees around it, or with brush over it. These were the ones who had had their experience of hills from the molding in the schoolroom or from the little artificial hills

n the city parks. They were not able to construct a real, big hill from so small a model. Many gave the difference between a hill and an island as being in the fact that an island is level or flat and a hill not level or flat. The islands of their experience had probably all been flat, and they had never pictured one of any other kind.

5. *The use of formal definitions by the child seems to go along with faulty imaging, and teaching him formal definitions of objects before he has clear images of those objects leads him to faulty imaging.* When he fails to get, or does not choose to get, an image of the object, he falls back on his verbal image of the definition to take its place, even although the definition does not have the shadow of a meaning to him. In proof of this, by far the largest number of definitions in these papers were given in the case of "isthmus" and "strait," where there had been least opportunity for perceiving the real objects, and where the misconceptions were manifestly the most numerous. Forty-two per cent. attempted book definitions, and 27 per cent. evinced a complete misconception of either isthmus or strait, or both, and besides this it is probable that many of those who gave correct definitions had no real notion of the objects they were defining. On the other hand, but 16 per cent. gave definitions of island, and 9 per cent. of hill, and here it could not be determined that there were any complete misconceptions of either. Also, the oldest pupils, those of the seventh grades, gave the fewest definitions, and their papers showed them possessed of the best images, as would be expected. The sixth grades gave the largest per cent. of definitions, which may be accounted for by the fact that they had recently come into the use of the textbook, while most of the fifth grades were still having their instruction orally, and the seventh grades were becoming a little more independent in their thinking.

GEORGE H. BETTS.

DEPARTMENT OF PEDAGOGY, CORNELL COLLEGE,  
Mount Vernon, Ia.

## THE ENRICHMENT OF THE TEACHER'S IDEAL.

EVERY teacher is controlled in some measure by an ideal. It may be a low ideal, wanting wholly in professional elements, a mere *quid pro quo* consciousness, so much service for so much pay; but even here the ideal of financial return enters as a spur to effort. There are personal ideals also, as that of being popular with one's pupils, which, while of a higher order than that which is purely commercial, is professionally quite as empty. Every teacher, we may say, then, should be controlled by a conscious professional ideal. The need becomes more and more apparent as advance is made beyond the elementary stages of school work. Doubtless a little knowledge, plus innate sympathy with childish moods and capacities, and a certain healthful poise of mind and body, will suffice to make one an excellent teacher of young children. It is much easier at this stage to direct the mind and to measure progress, for there is at once more uniformity and more simplicity in the mental processes of children from five to twelve years of age than is the case with those who have entered into the stage of reflective consciousness, with its accompanying impulses to reaction against external suggestions. It is just here, at the threshold of what we technically term "secondary education," or in the upper class of the graded school and the lower class of the high school, that we find the chief defects in our excellent school systems. These defects often seem to be due to peculiarities in local school organization; for example, in some cities the teacher of the highest grade school is also a general supervisor over the group of schools in the same buildings. Where this is the case the class that she is supposed to instruct suffers from the divided interest of the teacher at the very time when it is most in need of concentrated and discriminating attention. Moreover, it frequently happens that the teacher has been promoted to this position because of her aggressive force, which may be actually fatal to her work as an instructor and guide at this critical



period of the pupil's life. Transferred from this upper grade to the high school, the pupils in the case considered pass from the teacher whose detachment from their immediate needs has weakened their mental force and aspirations to teachers who, whatever be their scholastic attainments, have too often come to their work without even the amount of professional training required of grade teachers.

While the conditions described may not be general, they are not unusual, and they illustrate in a striking manner the absence of an ideal or professional standard applicable to this particular stage of education. They show, further, that it is not so much a defect in individual teachers as a condition affecting the whole system of education.

It is generally held that the unity of educational work arises from its relation to character and conduct. It is this in particular which distinguishes education from mere instruction or specialized training. Old education, to employ common though misleading terms, was distinguished from new by the prevailing influence of this relation. It was carried in the constant injunction *ought*, which expressed supreme regard for duty as a voluntary performance, and in the stress placed upon the classics and upon general history and literature, studies which inspire reverence for the past and fill the mind with the deepest reflections of the race as to the significance of life. Authority and duty, let us grant, were words to conjure with, but they held individuals, both teachers and pupils, to high endeavor and bound all together with the sense of an abiding relation to the eternities. This unifying force has lost its old concrete form. The loss is not peculiar to the school; it is felt also in the church and in the community at large; but the church has atmosphere and sentiments, and the community laws and penalties, to prevent the lapse of the social and moral consciousness. How to preserve this consciousness in the school is a question whose importance is everywhere recognized. In the lower grades the loss of old ideals has been replaced, measurably at least, by the infusion of Froebelian ideas, and in the upper grades of the high school is felt the influence of actual life looming large

before the ardent youth; but neither of these influences penetrates to the intermediate stage of the school which for the vast majority of pupils is the most important of all. The want which, if not confined to this stage, is here most apparent, is really the enrichment of the professional ideal. This is true, not alone with respect to teachers, but with respect to all who are concerned in the work and whose common ideal is realized in the teachers elected. "The activity and the accomplishments of pupils," says Dr. Draper, "spring from inspiration. If the teacher would be of real service to pupils, he must inspire them. If he would enrich their lives, he must have a life of his own with riches in it."<sup>1</sup> In other words, inspiration implies superior teachers, and this means, as Dr. Eliot has said with great emphasis, "additional expenditure for better teachers, who not only know well the subjects they are to teach, but also know the best methods of teaching the subjects."

This is an equipment not to be gained from primary schools with an added course of method training. It comes from profound study and reflection by which the mind is brought to full consciousness of itself as a great organizing and creative force whose impulses all make for inspiration. But to secure and retain such teachers it is not only necessary to pay higher wages, but to pay greater respect to the teaching function. Experience has conclusively shown that supervision by trained specialists practically familiar with school work is essential in the conduct of a system of schools, but excess of supervision is a curse in many places. As Mrs. Young very truly observes,<sup>2</sup> "it has created the feeling that office work and making out examination questions are more honorable than the active work of teaching. If teachers are to have a due moral influence on their pupils, their office should be held in the highest honor."

While thus admitting the need of strengthening our public education at particular points, we must not forget that the very movement of thought which has loosened some of the old moorings has given us far deeper insight into the nature of mind

<sup>1</sup> "The Element of Inspiration in the Schools," Report of the University of the State of New York, 1902, p. 363.

<sup>2</sup> *Isolation in the School*, p. 28.

itself and into its sympathetic relations to the nervous system. Education is recognized today as a distinct subject in a course of liberal education and as a specialized profession, not alone because all history and literature furnish material for its uses, but because of a body of scientific truth and philosophic principles which pertain essentially to its processes.

Like the progress of education itself, the progress of human thought is ever from the simple to the complex, and the teacher must keep pace with this movement. A new doctrine becomes a mere gloss for novelty until it is exhaustively analyzed. The doctrine of interest, for example, taken in its superficial sense, leads only to wasteful experiments. Interest, in the sense maintained by Dr. Dewey, "is always the sign of some power below; the important thing is to discover this power. To humor the interest is to fail to penetrate below the surface, and its sure result is to substitute caprice and whim for genuine interest."<sup>1</sup>

The test of the interest as a motive in teaching is found in its conformities to the highest ideal of method. This ideal involves, to quote from Dr. Harris, "first, its capacity to secure the development of rationality or of the true adjustment of the individual to the social whole; and, secondly, its capacity to strengthen the individuality of the pupil and avoid the danger of obliterating the personality of the child by securing blind obedience in place of intelligent co-operation, and by mechanical memorizing in place of rational insight."<sup>2</sup> Not only the doctrine of interest, but every other doctrine which is assumed as a basis of educational method, must be tried by this double standard.

Because every wind of modern doctrine is borne into the school-room, there should also be found teachers fortified by knowledge and by intellectual acumen to discriminate between the sound and the unsound and mellowed all through by the gracious wisdom of the humanities. We need more teachers of this sort in the grade schools and in the high schools, at least in their lower classes, more teachers whose crass knowledge has been transformed by professional training.

ANNA TOLMAN SMITH.

WASHINGTON, D. C.

<sup>1</sup> *Educational Creeds*, p. 17.

<sup>2</sup> *Ibid.*, p. 43.

## ACADEMIC AND PROFESSIONAL TRAINING OF TEACHERS.

### I.

THE conflict of traditions and novelties, the confusion of anomalous elements, personal, metaphysical, and institutional, gathering about the theory and practice of training persons to become teachers, constitute one of the most interesting problems in the present educational situation. To call attention only to the more obvious and commonplace aspects of the problem, there is a group of institutions characterized by the term "academic"—the college, university, and graduate school—the aim of which is primarily cultural and scientific, except when it is professional in the sense that refers to the more clearly recognized or "learned" professions of law, medicine, etc. From this group of institutions teachers for the secondary schools and for higher academic and professional schools of all kinds, including training schools for teachers, emerge or emanate either as a sort of by-product inherent in the rawness of the original material, or else as prepared for careers as teachers through participating in highly specialized scientific investigations, which may be as far removed from the science of education as the "semasiological changes in the pronoun *ipse*" are removed from the changes that are going on in the particular *ipse* of the youth who is to fall under the tutelage of the academically trained instructor. Then there is another group of institutions, comprising the normal or professional training schools for teachers, which is for the most part entirely distinct from the academic group, and which aims to equip an entirely different corps of prospective teachers, for a sharply defined and very large section of the school system, the grammar and primary grades. In this group of institutions the emphasis falls, not on independent and disinterested scientific investigation, but (1) on the storing up of predigested facts to be fed out a little

later to the growing minds of children; (2) on instruction in special methods and practical devices, presented, it is quite possible, deductively and authoritatively by experienced teachers, and accepted or shed, as the case may be, with too little independent inquiry and reflection on the part of the students; and (3) on training through "practice work" in the technique of teaching and schoolroom management. Over the whole is sometimes decently draped, sometimes inspiringly floated, a philosophy of education.

It is difficult to give a brief and general account of the normal- or training-school situation that shall be appreciative of the progressive factors in the situation, often peculiar to some locality or institution, and at the same time aware of the narrowing, wooden, treadmill round of learning to teach, learning to teach, which, like the "circular reaction" described by a contemporary psychologist, seems calculated to succeed in perpetuating a certain fixed condition of things, long after the forces of civilization have created a new landscape and moved on to a broader field of action. But I imagine few, if any, readers would patiently accompany further attempts to describe the nature of the separation between the academic and the professional training of teachers. The separation is so obvious that it is little short of commonplace. We are so used to the separation that we overlook, or complacently take for granted, its striking inconsistencies, such as are apparent, if one is willing to see them, when the educational situation is practically conceived of as cut in two in the middle, one section being manned by teachers who started out with the minimum of training in education, the other by those who have had the minimum of education in the course of their training. And why not? Is it not perfectly obvious, some would say, that a grade teacher should have had a normal-school training, a high-school teacher a college education, and a college teacher graduate study? The notion of a hierarchy, of a graded series of steps arranged in the form of a pyramid, seems always to have exerted a strong fascination over certain types of mind. Perhaps it stimulates a sense of emotional exaltation, of unques-

tioning peace and security. This must be true of an educational hierarchy, no doubt, as well as of other kinds, architectural, ecclesiastical, military, political, and metaphysical, that might be mentioned.

I do not wish to imply that the obvious contradictions in the existing methods of training teachers have not been frequently pointed out and commented upon. It is partly because of a growing consciousness of the anomalous elements in the situation that we come upon another source of confusion, namely, the disposition to meet the difficulty by simply combining the two forms of training. A teacher, no matter where he is to teach, must have had both academic and professional training. A teacher must have had the sum of certain courses in subject-matter, plus certain courses in method and technique, plus the drapery or flag of a philosophy of education. On the face of it, a perfectly practical and common-sense solution this! Match the subjects to be taught with subjects in the training course; add a judicious supply of methods and technique; and shake well—either the mixture, the drapery, or the flag, as the case may be. It may seem captious to inquire into this form of solution. It is so simple, so ingenuous, so comprehensive. But it involves one or two implications or assumptions, I believe, that will bear looking into.

First, there is the implication that during the time a student is engaged in learning a subject given as an academic course his mind is so much taken up with the subject itself that no thought of how to teach the same can enter in. Accordingly, what a course in the pedagogic method of a given subject-matter should do is to cause the student who has been over the ground merely as a learner to reflect upon the steps he took as a learner, and thus develop the proper methods of presenting or teaching the subject. In this way every academic course would be matched by a pedagogic course in the same subject. This certainly appears to be an improvement over the pedagogic course that simply imposed itself upon the student and the subject-matter from the outside; and yet there are reasons for believing that the improvement is more fancied than real.

Is it possible, it should be asked, for a student who is old enough to begin a teacher's training course to recall the earlier mental stages he passed through in learning any of the various subject-matters? How he felt and thought and what he did while he was mastering the elements of arithmetic, say, or of geography, or even of the subjects pursued in the academic curriculum—is it likely that he can recollect all this with sufficient accuracy and completeness to be of material service in laying out methods of teaching these subjects? But supposing that a student were able to do this, of what avail would such recollections be in arriving at methods of teaching that were desirable and proper? It is conceivable rather that the more clearly he remembered just how *he* learned a given subject, the more likely he would be to work out a method correspondingly narrow and rigid, a copy or imitation of his own method of learning or of being taught, another case of the "circular reaction." We are somewhat familiar with exhortations to teach spelling, for example, or arithmetic, in the good old way we used to learn it.

Again, one who is led to recollect the earlier stages of his experience in learning never gets himself completely into the past, no matter how vivid the recollection. He sees the past experience always through the spectacles of present attainment. A good deal of sentimental and patronizing talk about child-life is due to this. In the more artistic and truthful expressions of reminiscences of childhood, as, for example, in Stevenson's *Child's Garden of Verses*, there is a peculiar irony which constitutes part of the literary effect. The self-deception has become conscious. But the more unconscious one is of viewing these earlier experiences through the medium of present attainment, the more likely is one to distort and misrepresent them, to be out of touch with the realities and genuine attitudes of children and of those who are learning. It is only when the index of the refracting medium is critically estimated that the adult can hope to approximate fairly accurate judgments, and these must, in the nature of the case, span wide lacunæ in the realm of recollection.

My point is that the learning of a subject, especially in the usual academic fashion as so much ground to be covered, does

not carry with it an implicit method of teaching worthy of the name, ready to be dissected out when the psychological moment arrives. It is, of course, desirable, even imperative, for a prospective teacher to reflect upon his methods of study and learning; but a method of teaching based upon such reflection is liable to be either vague and fragmentary or narrow and rigid, and in any case self-deceptive.

Of course, someone might say, at this point, that no teacher of special methods attempts to do what I have been criticising; that he offers instruction in better methods than those the student himself has followed; that what the student recollects concerning his past experiences in learning serves simply as a point of departure for the true development of methods. My reply would be that academic courses in subject-matter do not usually in themselves furnish the student with a basis for estimating intelligently the value of methods to be developed later in this fashion. Common-sense can, of course, in many instances be trusted to furnish a rough-and-ready basis of criticism; but even this rare virtue is not always proof against the unreflective acceptance of dogmatic and merely personal or empiric statements of special methods, or against the uncritical rejection of methods that do rest on a sound basis.

To sum up the point. Academic courses, such as would most likely be inserted in a combination training course, particularly those academic courses which throw stress on the mastery of subject-matter, do not implicitly carry with them desirable methods of teaching, ready to be dissected out and reapplied. Nor, on the other hand, does the content or subject-matter of such courses provide the student with a basis for estimating and criticising intelligently and independently the value of special methods presented in addition, however superior such methods may be. In fact, the better and more progressive the special methods—and I believe the experience of a considerable number of instructors in special methods would bear me out in this—the more necessary does the instructor find it to teach subject-matter in addition to method, even to students who are well prepared from the academic point of view.



I should like, however, to submit one positive statement regarding the bearing of academic work on the problem of method. There is no need of discussing the point that without sufficient grounding in scholarship, which may be derived through academic work, any form of method would be barren and scholastic; or the point that the more or less perfunctory following of academic courses would be equally barren and scholastic. The positive statement I should like to make is that the contribution of academic work to the method of teaching is precisely the one that has been utilized already in the training of teachers by advanced courses in the colleges and especially in the graduate schools; namely, the spirit of independent inquiry and investigation. There may have been an early and rather too vigorous crop of pedagogical cant in regard to "original research," produced by a precipitate anxiety for a showing of external and tangible results. But the widespread recognition of the educational value in the training of teachers of pursuing some line of special inquiry, of raising, defining, and attacking new problems, and of experimental work of all kinds and in all departments, is not only one of the most significant developments in what we call the "higher education," but is a direct contribution, if we would only receive it, to all educational method. I do not mean, of course, that it would be desirable to organize seminars in high schools, or to encourage every pupil in the grades to busy himself with some special problem and present a "thesis" at the close of the course. This would be imitating pieces of external machinery intended to be used for particular purposes, and not to be generalized in any such wholesale fashion. The contribution I have mentioned is more direct and practical, as well as more a matter of spirit. The point is that a student, even an advanced student, who is curious about some new fact, trying some experiment, or puzzling over some new problem, whose mind is playing about some line of inquiry, now baffled and confused, now plunging ahead with sudden freedom, is probably as near the attitude and experience of a learning child as he is ever likely to get; much nearer is he than any recollection could bring him, and much more likely in and

through the growth of his own mind to be in sympathy with the growth of another's, and thus in a position to stimulate and direct that growth. I am not anxious to defend the proposition that every advanced scientific investigator is *per se* a good teacher. I assume that a person has made up his mind to be a teacher. Granted this, and it will follow, I am convinced, that in proportion as he becomes a learner, a genuine inquirer, will he have a basis on which to found a sound method of teaching. The two must go together. Close the opportunity of electing more advanced academic work, with its stimulus and guidance in raising problems and in opening up new lines of inquiry and investigation; require the prospective teacher to feed upon prescribed areas of subject-matter for two years or more, fenced in and sheltered by special methods of presenting and developing the same—and you are in danger of starving the growth and movement of his mind, which is the only genuine basis of method, into a flabby tissue of facts, ill concealing a skeleton of rules and formulæ.

The conclusion to this point, or at least *a* conclusion, would be that that training school is best equipped on the side of method, to say nothing of scholarship, which does not rest alone on prescribed courses in subject-matter and special methods, but which provides in the sciences and in the arts ample opportunities of electing advanced academic work, in the direction of the interest and previous attainments of the student, *even when the subject-matter of such courses does not bear directly upon the subjects to be taught later.*

WILLARD C. GORE.

THE UNIVERSITY OF CHICAGO  
School of Education.

## NOTES ON NATURE STUDY

WILBUR S. JACKMAN.

### I. THE MOTIVE.

It is the persistent aim to keep the pupils in constant touch with the many and apparently diverse aspects of nature as they are gradually and successively unfolded by the seasons. If the children are afforded the proper opportunity, and have a reasonable support through the encouragement of the teacher and parents, such observations will easily and naturally go forward.

The ancient traditions which gave form to the methods of the class-room and recitation, and which in large measure now control them, still furnish great hindrances to the correct treatment of work of this character in the study of nature. The idea that the pupils can be kept together only when doing the same work, thus ignoring variety of interests, is responsible for a good deal of difficulty. It is only in the most general way that any attempt should be made to keep the children together in any of their studies. The different modes of expression are still usually taught as ends in themselves, and the pupils fail to get their full benefit as actual aids in their real thinking. But the tremendous overestimate that is almost everywhere placed upon the relative value of the so-called "humanities" in the development of true character is the greatest obstacle of all. This will be the last to be removed, for it has its source in the deep-rooted prejudice against that frank and fearless study and interpretation of nature that modern science enjoins. It is a fact, too striking to be simply a coincidence, that as man gives more and more time and attention to the intelligent study of nature the humanities themselves become more and more humane. It is only as this is duly appreciated that it is possible to have nature presented to the children from the point of view of character-building. Teachers are just beginning to feel that nature study is a fine thing merely an a means to develop in their children alert and

inquiring minds; that it is worth while to cater to the children's tastes and desires to the extent of allowing some incidental work in the subject; that the practical and utilitarian demands of present life are a sufficient excuse for devoting some time to it; and so, for these reasons, from these points of view, they themselves study nature a little, and in an irresponsible sort of a way they try to teach it. But it will be only when teachers find out—as find out they must—that the study of nature is just as fundamentally necessary and as efficacious in the development of genuine morality as it is in the development of keen eyesight and hearing—it is only then that they will refuse to teach school without it as they now would refuse to teach leaving the so-called humanities out.

It is a common thing for people to scold at science on account of its manifest indifference toward the feelings of men. Because of this it has never yet been admitted to the sacred circle of the humanities. Hence the conclusion, also, that it can have nothing to do with morality, since that term expresses a relation between man and man—not between man and trees or between some trees and other trees. It is true that science steadfastly refuses to take part in the petty quarrels of humanity for the purpose of arbitrating or otherwise settling differences that rest upon dogmas of any kind. But the participants in this strife in time will see that their only hope for harmony lies in an appeal to nature; that it is only as they really find out for themselves nature's own way of doing things that they can safely determine what their moral relations toward each other actually are.

It is inconceivable that there can be a code of ethics among the trees or the brutes. With them, the race is to the swift and the battle to the strong. To imitate them would be as though we set up human thieves and cutthroats for our models. But true moral conduct is not a matter of imitation; its springs are found rather in the apprehension of those mutual relations which form an established order in nature. The theory of evolution has culminated in the greatest discovery of all time, that the spiritual relations existing among men represent as truly that established

order of nature as do the physical relations existing among trees. The leaf stretches out to the sunshine and the strong arm reaches out to the weak for precisely the same reason—nature ordains it for both as a fundamental and absolute condition of life. The behavior of both is in strict accordance with an established order of nature so rigid and inflexible that, for want of a clearer way of expressing it, we say they do it in obedience to a natural law. To disobey this is to incur the penalty in the one case of physical, and in the other of spiritual, death. In the early and primitive code of morals, this law appears to be an arbitrary fiat imposed from without. It therefore seems to be possible to successfully resist it, or by sacrifice to placate it, or by entreaty to evade it. In the new code now slowly forming in the light of the facts of evolution it appears to be merely the description of the inner constitution of things without which they cannot even be imagined to exist. Hence the abysmal chasm that separates the old morality from the new.

Here, then, is the central and final thought that must be uppermost in the mind of the student of nature and his teacher: I wish to know this tree for one reason—and only one—that I may live justly and walk uprightly. There is no other reason, in the last analysis, that is worth considering. I must know its wood that I may build shelter, and its fruit that I may have food, it is true. But these are secondary. If nature did nothing but teach us how to protect our bodies, then its study would forever keep us on the plane of the wild fox and the sheep, which grow hair and wool. If nature revealed to us nothing more than the world as a storehouse of food, then its study would doom us to consort eternally with the birds. If nature study is not a means—the means—to righteousness, directly, then the less of it we have in the schools the better, for its knowledge will be as dried grass in a breath of flame.

## II. NATURE STUDY THROUGH COMMITTEES.

In organizing the work of an entire grade so that the various interests and abilities of the pupils may be considered, it is useful to divide the room into about five committees. By this plan

it is possible for each pupil to have a fair range of choice as to the domain of his observations, and the entire field may be fairly well covered by the grade as a whole. If a few minutes each day are set apart for the report of a committee, the subject is kept constantly before the children, different aspects of nature are being presented, and yet no one pupil is being unduly pressed for results. With practically a week in which to prepare his report, he may proceed with the deliberation that is necessary to good work and careful observation. The following groups of topics are suggested as indications as to what the work of the committees may include.

1. *The birds*.—Time of arrival; food; nesting habits. Bird-boxes may be made in various regular or extemporized forms.

2. *Earthworms*.—Date; nature of soil where found; habits; food; amount of earth in castings per square foot; etc.

3. *Insects*.—Earliest forms; winter history; habits; enemies; harmless or destructive; relations to plants.

4. *Plants*.—(a) Trees: order of opening of the buds; devices for protecting the young leaves from cold and wet. (b) Plants that spring from roots or underground stems that survive the winter; order of appearance; of blooming; of ripening seeds. (c) Seedlings; earliest to appear; favoring location and conditions; flowering and fruiting.

5. *Pond life*.—Earliest signs of life. Frogs, snails, snakes, water beetles, dragon-flies, algæ, lilies, rushes, etc.

6. *Climatic conditions*.—Temperature of air; of the soil; moisture in the soil; rainfall; sunshine; clouds and wind. These observations should form a continuous record in graphic form by means of curves as suggested in previous numbers of this magazine.

7. *Painting*.—The pupils of each committee should paint a landscape once a week to accompany their reports. A daily and continuous history of the season will thus be written in color. By means of paintings and drawings the details of plants and animals studied may be shown. Other forms of expression and mathematics will be needed, if the observations are to have much of permanent value.

Much of the work suggested for these committees will be done in connection with the preparation and care of the garden, which will be managed in general on the plan that was followed last year.

In this connection it is hoped that the school and the home may unite to enlist the interests and the services of the children

in an attempt to beautify their home surroundings. With this in view the following circular letter, which explains itself, is being addressed to the patrons and friends of the school. It is proposed to see that each child who desires to do work of this sort is provided with all the necessary help. A traveler in approaching a school, if it is a good one, should be able to learn first of its presence through its influence upon the homes of the district. In no easier or more beautiful way can this influence be shown than through the cultivation of flowers.

### III. HOME GARDENS.

#### *To the Parents of the University Elementary School:*

It is intended this spring to encourage the children of the vicinity to plant and care for a small plot of ground, where practicable within their own dooryards. It is believed that the school should be felt as an influence for good through what the children do, at least to the limits of the district, and that they should become early partakers in that civic pride which seeks to make their neighborhood more healthful and beautiful. As an aid in realizing this idea you are earnestly requested to co-operate with the school in this effort by answering the following questions, to the end that the school may render the children all the assistance that may be necessary or possible:

1. Have you a small space in your dooryard that you are willing your children should use in planting flowers or vegetables or both? \_\_\_\_\_
2. How large? Length, \_\_\_\_\_ feet. Width, \_\_\_\_\_ feet. (Let the children measure it and answer all other questions in this list that can be referred to them.)
3. Sunshine: \_\_\_\_\_ hours in forenoon; \_\_\_\_\_ hours in afternoon.
4. Soil: \_\_\_\_\_ sand, \_\_\_\_\_ clay, \_\_\_\_\_ loam, \_\_\_\_\_ depth \_\_\_\_\_.
5. Can it be easily watered? \_\_\_\_\_
6. Will you provide the children with a hoe and rake? \_\_\_\_\_
7. Do you wish suggestions as to the kinds of seeds to be planted? \_\_\_\_\_
8. Will you furnish the children with the necessary seeds, roots, or plants? \_\_\_\_\_ (The expense will be insignificant.)
9. Have you any locations suitable for vines? \_\_\_\_\_ Fence? \_\_\_\_\_ Wall? \_\_\_\_\_ Side of house? \_\_\_\_\_ Porch? \_\_\_\_\_
10. What other flower and vegetable beds will you have? \_\_\_\_\_
11. If yard space is not available, have you windows, or other places suitable for boxes? \_\_\_\_\_ (Boxes may be made in the manual-training room at the school. Let the children get the proper dimensions.)

12. Have you neighbors whose children are not in our school that would be interested in work of this kind?

Name \_\_\_\_\_

Address \_\_\_\_\_

(Signed by parent) \_\_\_\_\_

Address \_\_\_\_\_

Number of children \_\_\_\_\_

**NOTE:** If this paper is properly filled out and promptly returned, plans will be made at once for helping the children, who will be given opportunity from time to time to report to the whole school upon their work.



## THE VERB: A QUESTION OF LOGIC AND OF PSYCHOLOGY.

THERE seems to be an essentially illogical conception, or at least a radically false terminology, among grammarians with reference to this fundamental part of speech. All of the English grammars thus far examined classify verbs as transitive, those having (or requiring) objects when in the active voice (most of them omit this clause); and intransitive, those which do not have (or require) objects when in the active voice.

Is this sound? The etymology of the terms will help us to decide: "transitive"—*trans*="across," "over;" *eo, ire*="go," "pass;" a "transitive" verb in the active voice should be therefore a verb which expresses an action that passes over from the actor (subject) to the recipient of the act (object). Then logically an "intransitive" verb in the active voice should be a verb which expresses an action that does not pass over from the actor (subject) to the recipient of the act (object); in other words, a verb which expresses an action that is complete in itself. Logically, also *be, become, seem*, etc., should be neither transitive nor intransitive, because they do not express action at all.

Of course, an argument from etymology proves nothing of itself, but the real question here is not one of etymology, but one of logic. The definition of a transitive verb suggested by the etymology of the word "transitive" is practically the same as that given in the grammars, for the fact that a verb has an object surely implies that it expresses action. The question is, then, admitting this definition of a transitive verb, which of the two definitions of "intransitive" given above follows? A moment's thought will show that one who accepts the given definition for a transitive verb ("a verb which expresses action that passes over from the actor to the recipient of the act") must say of the customary definition of an intransitive verb ("a verb that does not have an object") simply *non sequitur*. The defi-

nition that does follow is evidently the one suggested in the second paragraph above.

It appears, therefore, that verbs should be classified primarily, not as transitive and intransitive, but as *action* verbs (verbs of motion) and *being* verbs (verbs of rest). Latin grammars assume this, as appears in the familiar statement: "In, *into*, with the accusative after a verb of motion; *in* with the ablative after a verb of rest." Our own usage is exactly the same: He went (verb of motion) *into* the house; He was (verb of rest or being) *in* the house.

The following table represents an attempt to classify and define verbs on the basis of these facts:

- I. Action verbs (verbs of motion).
  1. Transitive (in active voice and completed by object complements, or in passive voice).
    - a) Active voice (subjects act).
    - b) Passive voice (subjects acted upon).
  2. Intransitive (complete without objects).
    - a) Active voice (subjects act).
    - b) Passive voice impossible.
- II. Being verbs (verbs of rest).
  1. Incomplete predication, copulative or attributive (completed by attribute complements).  
(Voice impossible—no action).
  2. Absolute (complete without attributes).  
(Voice impossible—no action).

This classification is frankly dualistic; it involves a distinction between subject and object, and between action and being. The problems involved in the latter antithesis are quite too difficult for examination in the present article. Only a brief discussion of the psychology of subject and object will be attempted, and this will be definitely limited to the pedagogical aspects of the question. Let the point of departure be Mr. Lewis's statement: "The unfortunate terms 'subject' and 'object' are still in use, though they cannot be defined, and though they reflect an outworn psychology."<sup>1</sup> One may acknowledge fully the authority of Mr. Lewis, and yet take issue with this statement. Surely the fact that these terms cannot be defined does not furnish a sufficient reason for abandoning them. On the

<sup>1</sup> ELEMENTARY SCHOOL TEACHER, November, 1902, p. 164.

same ground we should have to abandon the terms "space," "time," "thought," "mind," "matter," "electricity," "life"—in fact, almost all fundamental terms outside of mathematics and logic. So long as it is possible for us to recognize subjects and objects without difficulty and with complete agreement among ourselves, and to teach pupils to do the same, the question of definition remains a formal, not a practical, one. Nor is it altogether certain that these terms reflect an outworn psychology. The writer finds dualism very much in evidence both as a practice and as a theory. Indeed, outside of the school and the college it seems to be the usual belief; and certainly Professor James, to take one example from the inside, has much in common with the layman in this respect.

But this is not, after all, the point I wish to make. Suppose that this psychology were outworn, obsolete, for the adult, that would not necessarily mean that it would not be vital for the child. Must we not come to realize more and more the function of the incomplete and the crude in the child's life? After the first stage of undifferentiated masses of experience, there should follow a period of definite discrimination, and it is only when the individual has passed through this period of differentiation that he is able to make real reconciliations—to comprehend philosophical unities. Not that children are to learn anything which is false, and which must therefore be rejected in their later years; not even that certain things are to be taught as mere scaffolding, which serves its purpose and is torn down. The idea is rather to teach in each stage of the pupil's development those things to which his mind will most naturally respond in that stage. They must all be true, but they will perhaps be crude and incomplete from the adult standpoint. The final argument for the dualism of subject and object, and of action and being, is, then, that children of the grammar-school age are in the essentially dualistic stage of their development, and should not have forced upon them at that time the monistic conceptions of the adult.

CLINTON S. OSBORN.

THE ETHICAL CULTURE SCHOOLS,  
New York City.

## ARITHMETIC CONSIDERED AS A UTILITARIAN STUDY —WHAT SHOULD BE THE COURSE OF STUDY?

IN preparing this paper two sources have been drawn on: first, the experience of business-men, and, second, the experience of teachers. In using the first source the aim was to secure the business-man's views of our arithmetic as it is taught; and the second source has been used to show the value of the utility idea in teaching arithmetic. The bearing of utility on the course of study has been considered practically and pedagogically.

In working out the business-man's point of view some twenty of the leading business-men of Indianapolis were seen. From most of these we received helpful suggestions, and from only a few, kindly regrets. These men represent many phases of the business world.

The data for the conclusions made in this paper were furnished by men holding such business positions as: president of the State Life Insurance Company, managers of department stores, general manager of the Indianapolis *News*, cashier of the State Bank, president of the Bowen-Merrill Book Co., head agent of the Union Station Ticket Office, president of the D. M. Parry Vehicle Co., head of the office force in the Atkins Saw Works, and head of the Indiana Stationary Co. The following set of questions, accompanied by either a copy of Cook and Cropsey's *Arithmetic* or a table of contents, was left with each of these men:

1. Check such divisions of the table of contents as you consider of no use in business.
2. Indicate the most important subjects in order of their value.
3. Add such other subjects as you believe would be of value to a business-man.
4. Tell us wherein you have found your employees strong in arithmetic and wherein weak.
5. In which do you consider pupils should receive more drill—in oral (mental) or written arithmetic?

6. Give us a summary of what you think schools ought to teach below the high school, and how the teaching may best be made real to the pupils.

The following are representative sets of answers:

I answer question No. 1 as follows: In sec. vi from "surface measure" to the end of the section; in sec. viii from "stock bonds and brokerage" to "interest," inclusive, from "bank discount" to end of section; in sec. x "the cone" to end of section, and all of the appendix—I consider of no value in business.

Question No. 2: The most important subjects in order of their value are, in my estimation, addition, subtraction, multiplication, division, fractions, percentage, ratio.

Question No. 3: I can suggest no other subjects that would be of value to a business-man.

Question No. 4: I find the majority of employees weak in their inability mentally to grasp subjects quickly and with sureness, a lack of confidence in themselves, and a desire to rely upon others rather than solve questions alone. In an arithmetical sense, they are fairly strong in addition and weak in multiplication.

Question No. 5: In mental arithmetic.

Question No. 6: I can suggest nothing that would be of greater value to one intending to enter a business career than systematic, ceaseless training in mental arithmetic. There is nothing to equal mental arithmetic for producing the rapid and accurate solver of most business propositions.

Respectfully,

EDWARD P. CLANCEY,  
*Manager Wasson's Department Store.*

Answer No. 1: The following are not needed in most business transactions:

- a) Measurement of the circle.
- b) Circular measure.
- c) Longitude and time.
- d) International date line.
- e) Calendar.
- f) Life insurance.
- g) The so-called "accurate interest."
- h) Compound interest.
- i) Present worth and true discount.
- j) Foreign exchange.
- k) Equation of payments.
- l) Involution and evolution.
- m) The right triangle.
- n) Measurement of cones and pyramids.

*o*) Algebra questions.

Answer No. 2: The most important subjects are about as follows:

*a*) The four fundamental rules.

*b*) Fractions—common and decimal.

*c*) Federal money, bills, and statements.

*d*) Denominate numbers.

*e*) Percentage and its applications, as to profit and loss, commission, commercial discount, stocks, bonds, brokerage, insurance, and taxes.

*f*) Interest, partial payments, bank discount, and exchange.

Answer No. 3: Personal accounts, elements of bookkeeping—single and double entry.

Answer No. 4:

*a*) Among our employees we find the greatest deficiency in decimals and applications of percentage. In other business institutions a different condition would very likely prevail.

*b*) In no particular branch have I found them especially proficient.

Answer No. 5:

*a*) In mental arithmetic.

Answer No. 6: Below the high school all the subjects listed in answer to Questions 2 and 3 should be taught with the utmost care. In addition to these, the elements of mensuration and proportion should be taught, to give pupils some definite ideas of number relations.

To make the subjects in arithmetic real, each one possible should be approached from the concrete side, and following upon this should be an immense amount of mental drill by which the pupil is compelled to do much thinking, talking, and explaining. This process should be faithfully, I might say slavishly, pursued, until speed and accuracy are positively numbered among the pupil's powers. Review! Review!! Review!!!

ANDREW M. SWEENEY,

*President Indiana State Life Insurance Company.*

In making deduction from the answers received from these business-men one conclusion seems safe, viz., that our arithmetic work is sufficiently extensive. With almost no exception these men have nothing to add to the table of contents, and with equal unanimity, but much greater divergence of opinion, they consider that there have been too many subjects attempted to teach all of them well, and that certain subjects have absolutely no utilitarian value. All of these men are in favor of more drill work on the fundamentals and simpler operations.

Mr. Brown, manager of the *Indianapolis News*, states the case briefly:

The chief things are the simple things. We find that young men slight the very things essential in arithmetic frequently. Their additions are wrong and their multiplications are full of errors. Everlasting accuracy in these things is what business-men want. The cube root, and all the "fancy" theoretical information, are of no practical value. They are perhaps intellectually advantageous, and as information no doubt elevate the mind; but educate the young fellows to be accurate and know a few things well, if they cannot know all things.

With a single exception, the judgment of all these men is that oral arithmetic should receive the more drill. This opinion seems very emphatic. In answering most of the questions considerable conservatism is shown. But in the matter of oral arithmetic their almost universal judgment is that the return in business utility for time spent in oral arithmetic drill far exceeds that of time used in written work. Mr. Gay, of the New York Department Store, puts the matter as follows:

We would emphasize very strongly the importance of oral arithmetic. Here you can develop a mental concentration that is seldom acquired in written work. No great mental effort is necessary to solve a simple problem when the figures are on paper. In drilling a class in oral arithmetic a complete mental concentration is necessary for a correct answer. Let the teacher ask an assembled class to give the answer of  $7\frac{1}{2}$  yards at  $6\frac{3}{4}$  cents,  $2\frac{1}{2}$  at  $2\frac{1}{8}$  cents, etc.; what is the difference between \$4.80 and \$3.65; add \$4.40 to \$6.80; or divide 68 into \$3.40.

In answer to the fourth question, "Tell us wherein you have found your employees strong in arithmetic and wherein weak," these men are unanimously silent as to strong points. They have found their employees especially weak in accuracy of addition and multiplication, and ability to handle problems involving decimals and percentage.

Naturally, great division of opinion is found in the answers to the first and second questions. In answer to the first question, "Check such divisions of the table of contents as you consider of no value in business," most men would omit such subjects as measurement of circle, the money of foreign countries, longitude and time, involution and evolution. Many would also strike out cube root and all of the work in the latter part of the arithmetic. Few report factoring of any utilitarian value.

In answer to the second question, "Indicate the most impor-

tant subjects in order of their value," we find the expected unanimity regarding the prime importance of the fundamental operations, common fractions, and a rather unexpected emphasis on decimal fractions. Next to these percentage is placed in almost every answer. Regarding the applications of percentage, we also find in the answers what we might expect, viz., a wholesome business conservatism regarding the relative importance of these subdivisions. With an insight strikingly pedagogical, in the best sense of that word, these business-men see that the prime utilitarian importance of this or that application of percentage may be determined only by the child's future and present environment. This adaptation of utilitarian arithmetic comes out in the second part of this paper.

In considering the utilitarian arithmetic, as taught by certain teachers, I have endeavored to select only that work which seems adapted to the environment of Indianapolis pupils. We find in Dr. Stanley Hall's *Ideal School* the secret of the special value of the utilitarian point of view in the arithmetic of the upper grammar grades.

If Stanley Hall is right, the time to realize on this crying need for drill work as shown in the reports of these business-men is between the ages of eight and thirteen. If I understand Stanley Hall's theory correctly, between twelve and thirteen the child begins to change from an automatic being into a reasoning, inquiring individual. It would seem that this is the period when the interest in the utilitarian side of life begins to be dominant. If this be true, children in the seventh grade should begin to get the utilitarian point of view.

We have felt that in studying denominate numbers it is well for the 7 B pupils to realize the measuring idea. A discussion of such questions as the following prepare pupils to lay hold of the subject in a broad utilitarian manner.

1. Why do we measure at all?
2. If supply were unlimited, would measuring be necessary?
3. Do we measure in other subjects—in English, in history, etc.?

The following is one pupil's answer to these questions:



ABBIE COOK, 7 B2, 12-2-1901.

## MEASURING.

Measuring is a process of finding how many times a unit or a part of itself is contained in the whole. We measure for economy and convenience.

If we had no ways of measuring some people would get more than their share or would pay more for an article than it was worth or not as much as it was worth. Carpenters would buy more material for a house than they would need and they would need very large sheets of paper on which to draw their plans. These would be very inconvenient to carry and to handle and by measuring they can make smaller plans. Every problem in arithmetic contains measuring in some form. Some by measuring distances and others by measuring articles of food.

Surface measuring was taken up with actual computations of schoolroom, yard, etc. The remaining denominate number subjects were worked out in connection with the manual training. The boys built a house to scale. The utilitarian value of lumber measure was immediately apparent, and as the house progressed the need of being able to compute surface measure for lathing, plastering, papering, and carpeting became very real.

The utilitarian value of these divisions of arithmetic is self-evident, and the pedagogical value of presenting them from the utility standpoint became painfully evident when a competent substitute teacher took up the work without the utilitarian point of view.

In the percentage work of the 7 A's a somewhat different problem presents itself. The various applications of percentage are many, and comparatively few of them have a utilitarian value for every pupil. Here also the *scene* of utility changes from the comparatively simple activities of the 7 B work, which concern the home life of practically every child, to the specialized activities of the business-man. How to place the 7 A's in this business atmosphere is the question which confronts the teacher who is considering arithmetic as a utilitarian study. Several schemes have been tried to my knowledge. The one which seems to work best is that of the children imagining a boy compelled to begin work at the end of his grammar-school course. The first few recitation periods are largely given up to working out the plan and following this boy as he applies for and secures a position in a grocery store.

Some of the advantages of selecting the grocery business for this particular class are seen in the facts that fully one-third of the pupils had either parents or near relation in the grocery business, fully one-third of the boys had worked in a grocery store, and all the pupils lived in easy reach of the corner groceryman, of whom they were required to get their knowledge first-hand. The pupils were encouraged to secure order blanks, actual bills of goods, etc., from their grocery adviser. These were mounted, and, together with an account of the boy's experience, make part of a notebook record. The time for working up the notebook record need not all be taken from the arithmetic periods, for the working out of these experiences is interesting and valuable composition drill.

The boy's work of the first day is simple; but the children's boy is always bright and anxious to learn. He is consequently hurried through his first experiences of sweeping, and taking and delivering orders, and is soon sent to the wholesale house to pay a bill. The employer is always kind and allows the boy to foot the bill. The boy finds that the amount given him with which to pay the bill does not equal the footing. The kind employer then leads the boy to see that the bill is being paid within ten days, and a discount is being allowed. From bills secured of grocers, children learn usual discounts and make bills of their own. These bills are footed, but the footing is not placed on the bills. Part of an assignment is to examine the items of a classmate's bill and compute the footing. On returning these bills to the owners there are always some differences in footings. The items are then read by the teacher and computations are made by the pupils as oral arithmetic. The pupils keep the results of the computations for addition. The items being finished, each pupil adds. After different answers have been reported, it is evident that some are wrong. At this point the pupils readily realize the utilitarian value of drill in addition. Where errors were made, each pupil feels the employer of his boy reproaching him, *i. e.*, reproaching the pupil. The matter is no longer one between the teacher and pupil, but the situation has become that of a business relation. So readily is this transi-

tion made from the imagined boy to the pupil himself that in the first week's work pupils had of themselves begun to speak of "Flora's bill," "Thomas's order," etc., and so real does this become that it is expressed in the titles of some of the notebooks, *e. g.*, "My Experience in the Grocery Business." With a class in this condition the teacher may give as long and otherwise tedious columns of numbers for addition drill as he pleases, without any lack of response from even the slowest of girls or the most self-satisfied of boys. The arithmetic is no longer dictation work. The motive is from within.

Boys who seemed on the verge of dropping out of school were caught by this scheme and their whole work improved. One case is particularly worth noting. A boy who had never done anything for anybody became so enthusiastic with his work that not only his arithmetic improved, but also his other work, to such an extent that he was allowed to take 8 B arithmetic in addition to 7 A work.

In the grocery experience may be introduced, besides bills and their discount, interest on overdue bills, gain-and-loss computations, taxes, insurance, commercial discount, and—in a less direct relation—commission.

The utilitarian value of these subjects was made potent by having the boy do his work well a few years and then decide he wished to try the grocery business for himself. He rented part of his employer's store and handled a little stock of flour, brooms, and potatoes. This necessitated his paying part of the expenses. In order to determine the amount of these expenses, each pupil secured a list of running expenses from his grocer. It was then decided that there were still other expenses, one item of which was taxes. This subject was then studied; likewise insurance. The class determined that the boy should rent one-sixth of the store and pay one-sixth of the expenses. After all the above subjects had been studied and the expenses computed, the children asked their groceryman about the selling price of the goods the boy had bought, and made out orders enough to sell all goods. Some might be at a discount to save inventory. After all goods were sold and expenses deducted, many pupils

found that they had been doing a losing business, and readily saw the need of careful calculation in business.

In finding the percentage of gain or loss many found themselves lamentably weak in decimal computations. It required no urging from the teacher to get these pupils to do the most grind kind of drill work for getting the decimal point in the right place. They seemed to feel that their employers could not retain them unless they improved. They could hardly have got this feeling except by considering arithmetic as a utilitarian study.

A school bank seems the best means of taking up interest and its applications. Our 8 B's have devoted one period per week to the activities of banking. The result has been a decided gain in general interest and a rather startling revelation, viz., that, with the organized self-direction among the pupils, two teachers easily assisted seventy-five pupils to teach themselves. The 8 B's organized their part of the school into a city corporation and were paid for service. Money was thus placed in circulation. A place of deposit was needed; a bank was organized; and there soon developed a need of bank books, deposit slips, checks, notes, etc.

Considered as a utilitarian subject, there is little arithmetic left for the 8 A's except review work and a study of mensuration with the algebra point of view. However, it would seem that such subjects as United States revenue, if taught at all to Indianapolis children, should be left until the tariff question is worked out in the 8 A history. It is very difficult for Indianapolis children to realize its utility before such historical study is made. The 8 A seems a fit time for special stress on drill for accuracy which our business friends report so sorely needed. The 8 A pupil should have a rich store of concrete thoughts on all utilitarian subjects. Having this concrete foundation upon which to build the review work, the teacher may legitimately give much time to working for what Mr. Brown, of the *News*, calls "everlasting accuracy."

Considering arithmetic as a utilitarian study, the conclusions from the foregoing, briefly stated, seem to be these: that, on the

evidence of business-men, the pupils passing through the schools are deficient in the arithmetic needed in business; that there are some subjects being taught which have no utilitarian value; that oral arithmetic is of much the greater value for business training; that the children of the upper grammar grades are sufficiently developed to get the utilitarian point of view; and that the arithmetic work itself is best taught in its utilitarian setting.

In the light of these deductions, it would seem that the course of study should first lay stress on the fundamentals and such general principles as underlie all business operations, rather than on intricate problems; second, that the course should omit or postpone until the high school such subjects as have no utility in the business world; third, the major amount of drill should be given to such computations as make for proficiency in oral or mental operations; fourth, the course in advanced arithmetic should be adapted to the environment of the Indianapolis pupils and should be sufficiently informal to allow adaptations to the dominant business interests of the pupils of different districts; and, fifth, provisions should be made for surrounding upper-grade pupils with the utilitarian atmosphere of each successive topic studied.

CLIFF W. STONE,

*Principal School No. 8.*

INDIANAPOLIS, IND.

## EXPRESSION.

ONE of the marked changes in the school of today, as compared with that of a few years ago, is the time and importance given to expression. As the study of the individual child has taken the place of mass work, and freedom the place of restraint and unreasoning obedience; as personal observation, contact with life, and real knowledge of things have come to be recognized as more potent than text-books—so expression has taken the place of repression, and joy and genuineness the place of dull sadness, self-concealment, and self-consciousness. The workshop, the cooking-room, the garden, the laboratory, and the studio, through which the child relates himself in a real way to the world's work and to people, and realizes his own power and use, are comparatively new factors to be dealt with in a course of study. "I saw that the children were not happy in the school, and I knew that something was wrong with the school," said Colonel Parker; "that was the beginning of my work."

With this change have come serious evils. Many of the teachers who have observed and studied the children, and who have felt the thinness and poverty of the school life, the failure to satisfy the child's craving for self-expression and growth, have been hampered by a lack of knowledge of the principles governing the use of these modes of expression, as well as by a lack of skill in technique; for nowhere is the skill of the teacher, the power to do, of so much importance as in the elementary school. The result has been an overcrowded curriculum, drill in forms of expression, and ultimate absorption in these forms which, instead of being obedient servants transmitting thought and feeling, soon become masters, an end and law unto themselves. The practical working out of the principle that one can express only what is his own, only what he can assimilate of reality, truth, and beauty, we find most difficult in the school, because the product of expression is so valuable in our eyes

that technical skill tends to become the only measure of success. Expression in education means all that it does in life. It is work developed by community interests; it is a social function, and should serve the social organism. There must be a real demand felt by the child for what he produces. The desire to meet this demand creates an interest and moves him to study, to investigate materials, laws, forces, facts in science and in history, and apply all these to the improvement of his work. His own product becomes an incentive to closer observation, to fuller study and greater technical skill. Technique is not all external. It is the fitting of the tools and material to the spirit, which is internal. When the community life makes a genuine, adequate motive for expression, and supplies conditions and material for study and work, growth in technical skill is assured. Technique is a power, but it must be exalted by a fulness of life, a richness of personality—that for which it exists. With the child each expression—no matter how crude, if it is a free utterance of his own power—is a joy. It is his all at that moment. His only standard is what he thinks and feels. He is not trying to repeat a model, but simply to realize his own thought; and whatever he makes—his play, his painting, his drawing—should be treated reverently. Who knows what it means to him? Freedom to work out what he sees and thinks is his right. Let us not intrude and impose our grown-up ideas upon him, but study to know what he is reaching out after, and try to apprehend his moods, that we may feel his desire for growth—the unconscious demand that his spirit is making for his own everlasting good; and then co-operate with him in working it out.

Expression is a necessity of growth. The tendency of all thought is to manifest itself in some kind of form. Its vitality depends largely upon its embodiment in expression. Inhibition or arrest of this natural flowing out of a living force reacts to dissipate energy and to destroy that unity of mind and body which is the true condition of being. Free expression reacts to intensify, clarify, and vivify thought. Each expression is an incentive to another, because it brings a new recognition; a clearer, stronger image, which in turn manifests itself; and

so thought and expression constantly act and react upon each other; there is no end, but instead an ever-widening circle. Expression is, therefore, a mode of study. Work in wood and metal, gardening, dyeing, spinning, weaving, sewing, decorative needlework, printing, bookbinding, pottery, as well as modeling, painting, drawing, dramatics, and music, put meaning, vitality, and motive into the search for knowledge, as well as discrimination in its use.

Poetry, language, and the drama, painting, and music are traditional forms: they are tools, the embodiment of laws of the mind, a part of the accumulation of the race, the inheritance to which we are born and which we accept as we do all other social institutions. The world is full of light — beautiful forms, colors, and sounds. The child is susceptible to all this beauty. Brought into contact with pictures, statuary, the voices of men and women, and being imitative, he tends to express himself through these forms, modifying each by his own individual way of using it. The special appeal which beauty of color, light, and shade make to him, and the emotions they arouse, he expresses with paint and brush; ideas of form he molds into the clay; his larger emotions, feelings that he cannot put into words alone, he expresses through music. In the drama and dramatic action he brings together all his experiences and combines them into one supreme act. Charlotte Cushman once said:

I think I love and reverence all the arts equally, only putting my own just above the others because in it I recognize the union and culmination of them all. To me it seems as if, when God conceived the world, that was poetry; when he formed it, that was sculpture; when he colored it, that was painting; when he peopled it with living beings, that was divine, eternal drama.

Searching for the principles underlying any art and the laws governing it, leads up to a point where we see that all the arts are one, and that the only art is the expression of an artistic individual through a trained technique, be that technique what it may. To speak, therefore, of the drama is to speak in a broad way of painting, music, and sculpture; for the drama embraces them all, and, if we include the musical drama, is the most perfect outlet for human emotions. The passion of the



child for acting out in his own body phases of life that he observes, and adding his own interpretation to these, of stretching his own personality to include other life, is one of the deepest-seated in the human soul; yet perhaps no other mode of self-expression has been so little used in the schools. Outside of the kindergarten it is hardly recognized as having any function, if we except the spasmodic dramatics in the high schools and colleges which are almost wholly isolated from the regular work.

Dramatic expression plays an important part in human life. The theater, an offspring of a high civilization, is but one of the small spheres of dramatic art. "All the world's a stage, and all the men and women merely players." The background of this large playhouse is the social life into which each is born. Life is an incessant exercise of the dramatic faculty. Each of us is all his life engaged in reading other people, observing them, studying them, and consciously or unconsciously imitating what pleases, or avoiding what seems unworthy. Dramatic art is based on the fact that the inner life is revealed by words, tones of voice, movements, and actions. Each one of us is more or less skilled in reading the meaning of these signs; we judge of our fellows by those he puts forth, and by imitating them we put ourselves into his place and partake of his experiences. Through this door the actor enters into the character of another, whether that other be real or created by the imagination.

Many manifestations of this dramatic instinct have been observed among animals; they express themselves by sound and movement; they know the meaning of these in their associates, and express their sympathy by their responses. They respond to signs of fear, and are thrown into a panic when it is exhibited in their leader. They have their plays, sham battles, and races; they pretend to be what they are not; they decoy, beguile, and mock each other; Molly Cotton Tail, Redruff, Lobo, and Wully are great actors in the tragedies which bear their names.

The most primitive peoples have their dances, festivals, and celebrations of every joyful event—the seedtime, the harvest, the hunt, the victory in war. They imitate birds and

animals and pantomime the great passions—love, jealousy, and hatred; they act out sham battles; they entertain friends and strangers by prolonged dramatic festivals. Robert Louis Stevenson describes a five-days' festival given in his honor by the inhabitants of one of the South Sea Islands, in which they combined music, the dance, and dramatic action. The child begins very early to imitate the actions of those around him. He selects this or that out of his environment which interests and appeals to him, and, by imitation, finds out about it and about himself. That is his way of studying and experimenting with his materials, of getting at the heart of things, and of feeling and developing his own powers.

Whatever other function imitation may have in the development of the child, the beginnings of dramatic art are bound up in this tendency to imitate, which in greater or less degree is exhibited by all children. Anyone observing children knows how they imitate sounds and movements; repeat words, rhymes, and jingles; how they reproduce the life about them in their little dramatic plays, adding individual touches here and there, and even new conditions, and sometimes continuing in certain characters for days at a time. Everybody knows the animal games, the doll dramas, the housekeeping plays, the school and church plays, the personating of the father and mother, the teacher and pastor. Indeed, all the social life about the children is reproduced with startling accuracy by the little actors. They delight in the subtle influence of costume, of putting on the clothes of another, and so getting another self and filling out the personality.<sup>1</sup>

As the children grow older they begin to group themselves together to represent scenes from history and story—delighting in heroic deeds and in the witchery and power of the fairies, demons, goblins, and spirits that people the old literature. To these beginnings we may easily trace the organized, developed drama of civilization, which is such a widespread, far-reaching influence in the social life of today. Almost every human prob-

<sup>1</sup> In the May, 1901, number of this magazine are a number of memories and observations of dramatic experiences by the professional class of that year.

lem, every phase of life, is reproduced on the modern stage. Never has the theater been so popular. The drama of the great passions of patriotism, of human liberty, ambition, and revenge, with their terrible conflicts, their pictures of failures, suffering, and death; the drama of the individual, of the family, and the affections of simple, everyday life, with its alternating hopes and fears, struggles, victories, and defeats, fills the theatres with spectators—because the drama answers a universal demand; because men are interested in human nature and its individual manifestations; because they love to be moved, to have the monotony of their lives broken up and their nobler selves startled into action.

Noting the universality of this dramatic instinct and the widespread love and delight of people old and young among all nations in dramatic performances, it would seem as though it could not be ignored in an educational scheme.

In the Elementary School we are trying to solve some of the problems which group themselves about this kind of work. The primary grades act out in a broad way, make objective, the stories and poems that appeal to them. They show great delight in the festivals and dances of the early peoples, in the home life, industries, weaving, cooking; and are always anxious to illustrate these in their own person. In these grades these illustrations are for the most part pantomimic. The children have not sufficient control of language, and at this stage stress cannot be laid upon it; but the situations are a great stimuli to speech when the action alone is inadequate to the expression of the thought. There seems to be nothing transient in their love of dramatics; the older children are never happier than when allowed to express themselves in dramatic form. They organize their plays better to make them tell their stories more completely. They learn the principles of dramatic construction by the actual fitting of their work to the necessities of time and space, character and situation. The expression becomes disciplined through technique. Language grows fuller, although always subservient to the action, which it clears up and moves on. In the primary and intermediate grades the children construct their own plays, suggest the action and stage business, write the speeches, plan,

and often make, the scenery and costumes. All the skill and knowledge at their command thus come into play. They exercise judgment and taste in choosing, rejecting, and determining values and proportions. The slow child is stimulated into action, while the impulsive child must restrain himself until he sees the whole, else his action has no meaning. In the upper grades the children study some of the great dramas and read aloud or act out scenes from them. They are chiefly interested in life, and the poetic drama gives them the freedom of the world, for the drama is life concentrated, intensified. It fastens on the real meaning of a bit of life or of literature; gets the kernel out of any experience of human life; it makes clear and inevitable the retribution of vice and the reward of virtue; it gives opportunity for the study of character in the light of completed action; it shows the struggle between good and evil, and the insistence and fatality of character, teaching morality and religion by implication.

Expression, either in voice alone or in both voice and action, is an incentive to the deepest study and appreciation of literature. The knowledge required is so definite and details are so important in dramatic presentation that the necessity of returning again and again to the text is forced upon the student. The individual is brought into living contact with a great variety of people and influences which supplements his own experiences, expands and multiplies his own personality, broadens his sympathies, deepens his emotional nature, trains his body into free spontaneous controlled action, and adds an everlasting charm, variety, and freshness to life.

MARTHA FLEMING.

THE UNIVERSITY OF CHICAGO  
School of Education.

## BOOK REVIEWS.

*The Western Slope.* By CELIA PARKER WOOLLEY. Evanston, Ill.: William S. Lord, 1903. Pp. 250. \$1.25, postpaid.

ALTHOUGH this is not a book on education, it presents in leisurely fashion the author's restful views on "the way we have come" during the last thirty years, educationally, religiously, and socially. To look at the world about us through the eyes of this genial, philosophic-minded woman is well worth one's while.

Mrs. Woolley is a panegyrist of, not youth, nor old age, but the years of life "from thirty to fifty and a little beyond"—that is, *The Western Slope*. That a club woman who has been more or less in the thick of the various reform movements for the last thirty years should have a serene appreciation of the sunshine of life's afternoon is a good sign of the times. Surely, not only the will to believe, but also the will to be genial, exist within her soul. Some lines, which are the writer's foreword, are so simple, so full of imagery, grace, and beauty, that I give them:

Down the hill the rest of the way,  
And quite past noon the time of day.

A gentle slope, a sunset sky,  
Halting feet, but a lifted eye.

Body growing tired and old;  
Spirit will some day slip its hold.

Heart that has gained and lost with the rest,  
And learned just loving is the best.

Afternoon, and this peaceful slope;  
The sunset sky with its tale of hope.

Mrs. Woolley's pleasure in her recollections of the spell downs of former day and the other emulative methods of the school which made "beating and getting ahead" a basis of interest is not shared by all the residents of the "western slope." I well remember the experience of a shy young person who in one day was initiated into a new school and made acquainted with the horrors of that rack of torture—the spell down. She saw then for the first time children nerved for battle, or pale and tearful from chagrin because they had been the last chosen, and a few dull ones, whom evidently no one expected to spell, reddening painfully under the slights and stings in the tones of the leaders, and the smiles and glances of other children, joining the ranks only at the point of the bayonet. Then, when the battle had begun, came the flush of conquest into some faces, or of rage at defeat into others, and the driven, hunted look into the faces of the helpless children who "could not spell." She longed to take the unhappy ones by the hand and say: "Never mind, for, though I can spell, I could never have learned this way."

Some valuable suggestions are made to women who speak in public discussions:

It is the merit and weakness of the average woman speaker to suppose she must have a definite line of thought to follow, a cause to serve, an object to gain. The result is that when she has nothing more

to say she stops talking and sits down; thus she often fails in finish and the gift of climax. I doubt if many women speakers know what climax is. They stop abruptly, as I have said, when they are through, or rather when they have lost their immediate clue. All this is but saying that, while women have the gift of public speaking, they have not yet, as a rule, acquired the art; and the art consists in something besides the proper chest tone, the right sort of gesture and pose. It sounds absurd, but the art of public speaking consists largely in the ability to keep on talking. Most men speakers have this gift in wearisome perfection. Much as I have suffered from this talent of theirs, of interminability, I admire it also. Few women have learned to think on their feet.

The story of the successes of The Village Improvement Club is entertaining and convincing.

In this book one is able to get away from that "too personal point of view which hinders understanding all round; a tyrannous and insistent ego which brings every matter to be judged, all human values, to the bar of some preconceived wish or opinion."

LAURA T. BRAYTON.

HYDE PARK HIGH SCHOOL.

# BOOKS RECEIVED.

- In Happy Far-Away Land.* By Ruth Kimball Gardiner from Tales Told by Frances Palmer Kimball. New York: Zimmerman, 1902. Pp. 108, 12mo; cloth.
- The Normal School Bulletin.* Published quarterly. Charleston, Ill.: Eastern Illinois Normal School, 1903. 12mo.
- Barnes's Elementary History of the United States Told in Biographies.* By James Baldwin. New York: American Book Co., 1903. Pp. 360, 12mo; cloth.
- Barnes's School History of the United States.* Being a Revision of a Brief History of the United States. By John Dorman Steele and Esther Baker Steele. New York: American Book Co., 1903. Pp. 452, 12mo; cloth.
- A Boy on the Farm at Work and at Play.* By Jacob Abbott. Edited by Clifton Johnson, with an Introduction by Dr. Lyman Abbott. New York: American Book Co., 1903. Pp. 182, 12mo; cloth.
- Botany All the Year Round: A Practical Text-Book for Schools.* By B. F. Andrews. New York: American Book Co., 1903. Pp. 302, 12mo; cloth.
- The Method of Recitation.* By Charles A. McMurry and Frank M. McMurry. New York: Macmillan, 1903. Pp. 339, 12mo; cloth.
- Elements of General Method Based on the Principles of Herbart.* By Charles McMurry. New edition, revised and enlarged. New York: Macmillan, 1903. Pp. 331, 12mo; cloth.
- Special Method in the Reading of Complete English Classics in the Grades of the Common School.* By Charles McMurry. New York: Macmillan, 1903. Pp. 254, 12mo; cloth.
- Hand-Loom Weaving: A Manual for School and Home.* By Mattie Phipps Todd. With an Introduction by A. W. Cooley. Chicago: Rand, McNally & Co., 1902. 12mo; cloth.
- A School Grammar on the English Language.* By W. M. Baskervill and J. W. Sewell. New York: American Book Co., 1900, 1903. Pp. 216, 12mo; cloth.
- The Children's First Story Book.* By May H. Wood. New York: American Book Co., 1902. Pp. 80, 12mo; cloth.
- Commercial German: A Complete Course for Use in Commercial Schools and in All the Commercial Courses of High Schools.* By Arnold Kutner. New York: American Book Co., 1903. Pp. 404, 12mo; cloth.
- Language Lessons.* By J. W. Sewell. New York: American Book Co., 1900, 1903. Pp. 160, 12mo; cloth.
- Triumphs of Science.* Edited by M. A. L. Lane. Boston: Ginn & Co., 1903. Pp. 154, 12mo; cloth.
- The Western Slope.* By CELIA PARKER WOOLLEY. Evanston, Ill.: William S. Lord, 1903. Pp. 250. \$1.25, postpaid; 12mo; cloth.

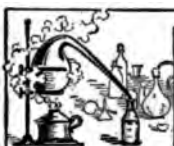
# The Best TONIC

When you are all tired out, feel weak, sleep does not rest and the digestion and appetite are poor, there is no remedy so effective as **Horsford's Acid Phosphate**. It is a nerve food and a tonic that nourishes and strengthens the entire system. Insist on having

## **Horsford's Acid Phosphate**

If your druggist can't supply you we will send small bottle, prepaid, on receipt of 25 cents.

Rumford Chemical Works, Providence, R. I.



**Certificate  
OF AN  
Eminent  
CHEMIST.**

I HAVE MADE A CAREFUL  
CHEMICAL ANALYSIS OF

# Sozodont

*for the Teeth,*

AND FIND NOTHING INJURIOUS  
OR OBJECTIONABLE IN ITS COMPO-  
SITION.

*Julius G. Pöhl, M.D.  
Analytical Chemist.*

FOR TWO SCORE YEARS AND TEN

Gentle Americans have cared for  
their teeth with no fear of Acid,  
Grit or other injurious substances

BY THE USE OF

# SOZODONT

# MENNEN'S



**BORATED  
TALCUM**

## TOILET POWDER

DELIGHTFUL AFTER BATHING, A LUXURY AFTER SHAVING  
Beautifies and Preserves the Complexion.

A positive relief for PRICKLY HEAT, CHAFING and SUNBURN, and all afflictions of the skin. For sore, blistered and perspiring feet it has no equal. Removes all odor of perspiration. Get MENNEN'S (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25 cents. **AVOID HARMFUL IMITATIONS.** (Sample free).

GERHARD MENNEN CO., Newark, N. J.

Something New **Mennen's Violet Talcum** Something Exquisite

In house-cleaning a little Platt's Chlorides should be mixed with the water when sprinkling the floors or wiping the wood-work. Disease germs are thus destroyed and thorough cleanliness ensured.

# Platt's Chlorides

**THE ODORLESS  
DISINFECTANT.**

A colorless liquid; powerful, safe, and economical. Sold in quart bottles only, by Druggists and high-class Grocers. Manufactured by Henry B. Platt, New York.



# STRENGTH



## **Pabst Malt Extract** *The Best Tonic*

**T**HE manner of its making gives it just the strengthening properties necessary to fortify oneself against a cold, wet spell. Hardly anyone is so constituted but that some of the time he or she does not need a bracing, palatable tonic. Even the most robust are often susceptible to the inroads of disease, owing to disregard of the well-established necessity of keeping one's physical condition up to the proper defensive standard. It is not sufficient to be strong; it is equally important to remain strong. Pabst Extract will make you strong and keep you strong.

Pabst Malt Extract is recommended by physicians, and sold by druggists. Write to Pabst Malt Extract Department, Milwaukee, Wis., for interesting booklet.

No Member of your Family  
should be without an Individual Stick of



(10¢ POCKET TINS.)  
**Relieves Colds, Rough Skin,  
Bruises, Soreness &c**  
**ALL DRUGGISTS,**  
OR BY MAIL  
ON RECEIPT OF PRICE  
IN SILVER OR STAMPS. *Nuyler's*  
863 BROADWAY, N.Y.

**Dr. Deimel**  
(LINEN-MESH)  
**Underwear**

Because it has real merit, this  
Pioneer Linen Underwear grows in  
popularity every year. It is so com-  
fortable—so satisfactory, that those  
who wear it once, recommend it to  
their friends unqualifiedly.

*Booklet telling all about it, and samples  
of Linen-Mesh, mailed free, on request.*

**The Deimel Linen Mesh Co.**  
(Originators of Linen-Mesh)

**Dept. O. 47—491 Broadway, New York**

SAN FRANCISCO, CAL., . . . . . 111 Montgomery St.  
WASHINGTON, D. C., . . . . . 1313 F. St.  
BROOKLYN, N. Y., . . . . . 510 Fulton St.  
MONTREAL, CAN., . . . . . 2202 St. Catherine St.  
LONDON, W. C., ENG., . . . . . 83 Strand (Cecil Hotel).

To the Land of  
Fruits and Flowers  
**FLORIDA**

*Through Sleepers every night,  
leaving Dearborn Station, 9:00 p.m.*

via  
**MONON ROUTE  
and C. H. & D. RY.**

Passing thro' the beautiful Cumber-  
land mountain region by daylight,  
and arriving at St. Augustine at a  
convenient hour in the morning

**CITY TICKET OFFICE  
232 CLARK STREET  
C H I C A G O**

**OCCUPANTS 200 YEARS OLD  
in a 300-Year-Old Building :**

**Johann Maria Farina**

Sternengasse 9-11 in Köln.

**9-11 (Cologne) 9-11**



**9-11** Eau de Cologne is an invigorating,  
refreshing **PERFUME.**  
is the **GENUINE EAU DE  
COLOGNE.**  
INSIST on 9-11 Cologne and TAKE NO OTHER.  
Import office, 1-3 Ann Street, New York.

## SOME FACTS ABOUT TYPEWRITERS

Great progress has been made in building typewriters in the last three years, greater advances than in all the time previous. Years of experience have shown what was valuable and desirable and what should be sacrificed. Some typewriters do good work and are durable, yet are hard to operate and are cumbersome; others are too complicated and easily get out of order, do not keep alignment, etc.



Operators who have used **THE FOX TYPEWRITER** are unanimous in agreeing that it combines more desirable features than any writing machine yet produced. It is a basket type machine, with ball bearing carriage, two oz. key tension, half-inch key dip, aluminum finger levers with individual tension, adjustable type-bars—insuring perfect alignment, even after years of service, line lock, automatic line spacer, and automatic ribbon movement, combining the features that give durability with the lightest touch, easiest action, and most simple construction.

Our 1903 catalogue tells all about it, and will be sent for the asking. Our free trial plan enables anyone, anywhere, to try "THE FOX" for ten days.

Write us today about it.

**FOX TYPEWRITER CO., Ltd.,**  
560-570 Front Street      **GRAND RAPIDS, MICH.**



## The No. 4 "Modern" Middle-Joint Fountain Pen

Made and Guaranteed by  
**A. A. Waterman & Co.**  
Sold everywhere at \$3

**FAITHFULLY** adapted to the needs of critical users, and superseding the old style construction heretofore used so largely by professional and business men at \$4.

It will soon be a far cry, back to the user of the risky form of a fountain pen that brings the fingers in contact with the ink joint.

The \$2 Middle-Joint (two sizes smaller) is also a wonderful value, but the *great comfort* is in a *big, strong pen*; and it is mighty comforting, too, to own it a dollar less than the price of a "has-been-the-best" pen.

If the local dealer has not a good assortment of "Modern" pens, write directly to the makers,

**A. A. WATERMAN & CO.**  
Dept. G.      22 Thames St., NEW YORK

Traveling by Daylight  
ON THE  
**WABASH LINE**

Affords all the comforts to be had in the most luxurious homes or in the best of hotels. Nothing is wanting to complete one's happiness, and the days pass only too swiftly.

The Parlor and Observation-Cafe Library Car features on the Wabash trains, together with the Free Reclining Chair Cars and Dining Cars, have become widely known and very popular.

**Through Cars** are run between St. Louis and Chicago, Kansas City, Omaha, New York, Boston, Los Angeles, San Francisco, Denver, Portland, Ore., Minneapolis and St. Paul; between Chicago and Buffalo, New York, Boston and Montreal; between Kansas City and Buffalo, and St. Paul and Los Angeles.

**C. S. CRANE**  
Gen'l Pass'r and Tkt. Agent,  
**ST. LOUIS, MO.**



Perfect  
Passenger  
Service  
Fast  
Freight  
Service

**CHICAGO & ALTON RAILWAY**

"Of all inventions, the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species."  
—MACAULEY

**THE ALTON ROAD**  
KANSAS CITY

**PERFECTION IN TRANSPORTATION**  
IS FURNISHED BY THE  
**CHICAGO & ALTON RAILWAY**

The heaviest steel rails, laid on a roadbed of crushed rock, make its tracks the smoothest. Over this dustless highway are run the most palatial trains in the world—the acme of luxury and comfort.

**AMERICA'S MOST POPULAR RAILWAY—JUSTLY TERMED "THE ONLY WAY"**  
BETWEEN  
**Chicago, St. Louis, Kansas City and Peoria.**  
GEO. J. CHARLTON, Gen. Pas. Agt., Chicago, Ill.



**SHINGLETINT**

THE most artistic and durable color effects on shingles are produced with Shingletint, which is a scientific combination of linseed oil, coloring matter, creosote, and the necessary drying agents.

Among the many shingle stains offered Shingletint is conspicuous not only for its superiority, but because it can be called for by its distinctive name, thus offering the consumer protection against inferior goods offered for the same purpose.

When buying Shingle Stains it will be worth your while to ignore the "just as good" argument and insist upon Shingletint.

STAINED WOODS AND DESCRIPTIVE LITERATURE SENT FREE UPON REQUEST.

**BERRY BROTHERS, Limited,**  
Varnish Manufacturers,  
NEW YORK PHILADELPHIA CHICAGO ST. LOUIS  
BOSTON BALTIMORE CINCINNATI SAN FRANCISCO  
Factory and Main Office, DETROIT.



*Points To Consider*

Forty years ago the school-teacher had to get along as best he could with foreign-made pencils; now things are changed, and he has the privilege of using

**Dixon's American Graphite Pencils**

in all the schools under his charge.

These pencils are not the result of an inspiration, but are the product of much care, thought, and study in order to provide just the right kind of a pencil for the many kinds of educational work.

They are used in all the leading scientific and technical schools in the country, and are recommended by the drawing professors. They have strength and durability of lead, combined with absolute smoothness and accuracy in grading. Send for illustrated color catalogue. It will help you.

**JOSEPH DIXON CRUCIBLE COMPANY**  
JERSEY CITY, N. J.



All over the civilized world  
**THE IMPROVED BOSTON GARTER**  
IS KNOWN AND WORN  
Every Pair Warranted

The Name is stamped on every loop—

The *Velvet Grip*  
**CUSHION BUTTON CLASP**

Lies flat to the leg—never Slips, Tears nor Unfastens  
**ALWAYS EASY**

Send 50c. for Silk, 25c. for Cotton, Sample Pair.

**GEO. FROST CO., Makers,**  
Boston, Mass., U. S. A.

**REFUSE ALL SUBSTITUTES**

# Charcoal Tablets

## ANTISEPTIC

**S**CIENTIFIC investigation clearly demonstrates that by far the greater part of the disorders of digestion are due to the action of germs which gain access to the alimentary canal, cause the decomposition of foods, and produce poisonous substances, which when absorbed into the blood give rise to a great variety of distressing symptoms, such as heart-burn, waterbrash, sick headache, dullness of mind, confusion of thought, blurred vision, specks before the eyes, and even attacks of unconsciousness.

The best of all intestinal antiseptics is charcoal, and of the many sources from which it is derived, that prepared from cereals is by far the most satisfactory. When exposed for a long time, charcoal absorbs organic material from the air and loses its efficiency. For this reason charcoal which has been put away on druggists' shelves often proves disappointing. We prepare charcoal from cereals to which we add a little sulphur, compressed into tablet form for convenient size to use, and carefully pack them so they will keep indefinitely.

On receipt of the coupon below, signed, with \$1, we will mail you three boxes Charcoal Tablets, each box containing forty tablets.

~~~~~ COUPON - CUT HERE ~~~~~

BATTLE CREEK SANITARIUM CO. Ltd.

Dept. A.

Battle Creek, Mich.

Gentlemen:—Inclosed find \$1. Please mail me three boxes of Anti-septic Charcoal Tablets.

Name.....

Town.....

State.....

The Perfect Food



Eggs on SHREDDED WHOLE WHEAT BISCUIT

SOLD BY ALL GROCERS

Write today and we will send you **FREE** our cook book, illustrated in colors—"The Vital Question"—which gives over 250 recipes. Address

THE NATURAL FOOD CO.,
Niagara Falls, N. Y.



With Cream



As Toast

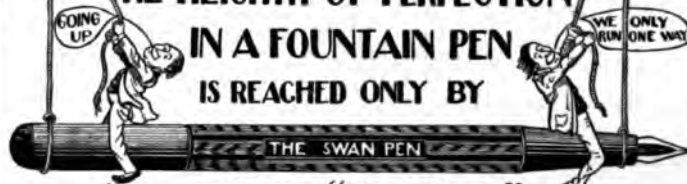
Shredded Whole Wheat Biscuit is thrice cooked and spun into fine shreds. Each shred contains many thousands of little pores which give great surface for the digestive fluids to act upon. It is crisp and compels thorough mastication which insures *perfect digestion.*

Poached or Scrambled Eggs on Shredded Wheat Biscuit

Moisten the Biscuit slightly with cold water. Place small bits of butter on top. Put in buttered pan in hot oven about three minutes. Remove with pancake turner to warm plate. Use as toast for scrambled or poached eggs.

PERFECTION

THE HEIGHT OF PERFECTION
IN A FOUNTAIN PEN
IS REACHED ONLY BY



J.F.S. GORE

THE "SWAN"

SELF-
CLEANING
AND
FILLING;
DOES
NOT
DROP
INK.

FOR SALE AT
THE EXCLUSIVE PEN STORE
96 STATE STREET, (STEWART BUILDING) CHICAGO
MABIE, TODD & BARD



Copy Your Letter While You Write

BY USING THE

CARBON LETTER TAB

Letter Copying Made Cheaper, Cleaner, and More Convenient

100 Letters and 100 Copies in Each Book. Bound in Board Covers with Carbon, Ready for Use

Letter Size (8½ x 11), Ruled or Plain \$0.75
Note Size (6 x 9½), Ruled or Plain50

Sent postpaid on receipt of price

S. D. CHILDS & CO.

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

The SUN Typewriter No. 2



Type Bar Machine

Visible Writing

Highest Speed

Manifolding

Most Perfect Work of All
The Only High Grade Writing Machine Sold at a Reasonable Price

A Revelation

Price only \$40.00 to introduce it

INVESTIGATE

Sun Typewriter Co.

239 Broadway, New York

ONLY ONE NIGHT TO FLORIDA

In addition to its regular morning and evening train service for all points south, commencing January 5th, the "Big Four Route" will run Pullman drawing-room sleeper on its 1:00 P.M. train, daily except Sunday, Chicago to St. Augustine, Florida, via Indianapolis, Cincinnati, Atlanta, Macon and Jacksonville, less than 32 hours enroute. This train is known as the "Chicago and Florida Special" and is strictly up to the 20th century mark.

Call on agents for rates and tickets via "Big Four-Q & C Route," or address
J. C. TUCKER
Gen'l Northern Agent
234 Clark St., Chicago, Ill.

IT DOES GOOD WORK IT DOES MORE WORK



*The Densmore
Does More*

Preserve Your Magazines

Have them bound in Cloth or Leather. It will improve the appearance of your Library at a small expenditure. The University of Chicago Press has a well-equipped job bindery and will be pleased to quote prices + + + + +

The University of Chicago Press
Job Bindery Dept. Chicago

Jaeger
PURE WOOL UNDERWEAR
Protects Against Temperature Changes.

The Standard Sanitary Underwear for Men, Women and Children.

Endorsed by Leading Physicians.

Also various JAEGER Novelties and Specialties.

Don't forget that the Best is the Cheapest and that the First Wealth is Health.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 16 West 23d St.; 155-157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

OUTING SPOTS IN THE NORTHWEST

There are many places in the country of the Northern Pacific, some inexpensive, others better and more expensive, where one can spend the summer days pleasantly and healthfully. Among these are Walker, in the Leech Lake country, and Detroit and Battle Lake in the Lake Park region in Minnesota; Eaton's ranch, near Medora, N. D.; Hunter's Hot Springs in the Yellowstone valley, and Missoula and the Bitter-Root valley, in Montana; Lakes Pend d'Oreille and Cour d'Alene, Idaho; North Yakima in eastern Washington, and Green River Hot Springs in the Cascades; Tacoma, Seattle, Port Townsend, Port Angeles, and Victoria on Puget Sound, and many places along the Columbia river and on the Pacific Ocean from Portland as a center.

Those east of the Mississippi who wish a decided change should go to the Rockies or the Puget Sound and Columbia river and seacoast country. We can only hint at these things here, but write us, giving particulars as near as you can, and we will try to give you the needed information to enable you to find what you want. And don't forget that Yellowstone Park is the chief of all tourist shrines.

Send to F. H. FODARTY, General Agent, 208 Clark St., Chicago, or CHAS. S. FEE, General Passenger Agent, St. Paul, Minn., for "WONDERLAND 1903." You need it in your business.

A QUAKER CITY LANDMARK

More than 150 Smith Premier Typewriters are used by the City Departments having Offices in this Building.

Philadelphia City Hall
350 feet in height



THE SMITH PREMIER TYPEWRITER CO.

THE BEST
SEND FOR CATALOGUE

FIFTY
STYLES

TRADE MARK
REGISTERED



PAUL E. WIRT
FOUNTAIN PEN
ALL DEALERS OR ADDRESS BLOOMSBURG, PA.

WHY not use a clean Fountain Pen, one that will write and write always, without skipping, blotting, or scratching?

The above Fountain Pen is and has been sold on its merits all over the world for sixteen years, and is unconditionally guaranteed.



THE EARLIEST
HAMMOND
DOES BETTER WORK
THAN THE NEWEST
MACHINE OF ANY
OTHER MAKE

The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

The only polyglot using on the same machine, one hundred type shuttles, in twenty-six languages, instantly interchangeable.

An indestructible machine. Will last generations and outlive ten type-bar machines. Writes like print—prints like writing.

The best manifold. The one machine producing perfect and permanent alignment with uniform impression.

**The Hammond
Typewriter
Company**

69th to 70th Street, East River
New York, N. Y.



"THE NAME IS EVERYTHING."

Esterbrook

on a pen is an absolute
guarantee of its excellence

Counselor's No. 688.
Will please all who like
a stub pen. Try it.
Over 150 varieties of
other styles to suit
every purpose. All
stationers have them.
Accept no substitute.

R. ESTERBROOK & CO'S
COUNSELOR'S PEN
688

THE ESTERBROOK STEEL PEN CO.
Works, Camden, N. J. 26 John Street, N. Y.



Operators of writing machines, especially skilled operators, prefer the REMINGTON, and for very good reasons.

The Best Results

in the Amount and Quality of work done, and the Ease and Speed with which it is done, are attained only through the use of the

Remington Typewriter
REMINGTON TYPEWRITER COMPANY
327 Broadway. New York.

Skin Diseases

If you suffer from Eczema, Salt Rheum, Ringworm, Itch, Ivy Poison, Acne, or other skin troubles,

Hydrozone

will cure you.

Cures sunburn in 24 hours. In cases of Prickly Heat and Hives it will stop itching at once, also will relieve mosquito bites.

Hydrozone is a scientific Germicide. Used and endorsed by leading physicians. It is absolutely harmless, yet most powerful healing agent.

As these diseases are caused by parasites, killing them without causing injury to the sufferer, naturally cures the trouble.

Sold by leading druggists.

FREE to any one sending me 10c. to cover actual postage, will send a bottle containing sufficient to prove to your entire satisfaction the claims here made. Pamphlet sent free. Address

Prof. Charles Harchant

59 W. Prince St., New York.

"RIDE A COCK-HORSE TO BANBURY CROSS.
TO SEE A FINE LADY UPON A WHITE HORSE,
RINGS ON HER FINGERS, AND BELLS ON HER TOES.
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME
TO HER GLAD INFANT, THE WHILE KEEPING TIME,
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.
THROUGH
MRS. WINSLOW'S SOOTHING SYRUP
OVER FIFTY YEARS SOLD
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD



Cyko A Night Printing Paper.
Cyko is the most perfect of all Developing Papers.
Made in a variety of surfaces and speeds adapted for all classes of negatives.
NO DARK ROOM REQUIRED.
One dozen 4x5 Cyko with developer 20 cents. Send to
THE ANTHONY & SCOVILL CO.,
122-124 Fifth av., Atlas Block,
New York. U.S.A. Chicago.



ORCHESTRA

Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, illustrated, mailed free. It's a money-saver.
LYON & HEALY, 38 Adams St., Chicago, Ill.
The World's Largest Music House. Sells "Everything Known in Music."

PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$150 and \$165. A magnificent instrument at \$200, \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



Rare Old Violins

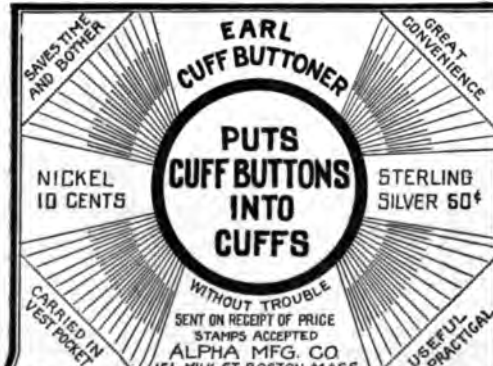
Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.
LYON & HEALY, 38 Adams St. Chicago.

R. R. Donnelley & Sons Co.

The Lakeside Press

PRINTERS AND BINDERS

THE PRINTING OF BOOKS DEMANDING TASTE AND CAREFUL EXECUTION, PRIVATE EDITIONS, COLLEGE CATALOGUES, AND ANNUALS A SPECIALTY. WE PRINT MORE FINE BOOKS THAN ALL OTHER HOUSES WEST OF NEW YORK. OUR NEW FACTORY, RUN ENTIRELY BY ELECTRICITY, IS THE MOST ADVANCED PRINTING PLANT IN THE COUNTRY. THE LAKESIDE PRESS BLDG., PLYMOUTH PLACE, COR. POLK, CHICAGO.

EARL CUFF BUTTONER

PUTS CUFF BUTTONS INTO CUFFS

WITHOUT TROUBLE
SENT ON RECEIPT OF PRICE
STAMPS ACCEPTED
ALPHA MFG. CO.
151-MILK ST. BOSTON MASS.

SAVES TIME AND BOTHER
NICKEL 10 CENTS
STERLING SILVER 50¢
GREAT CONVENIENCE
CARRIED IN VEST POCKET
USEFUL PRACTICAL

SEW THIS DEVICE IN YOUR COAT SLEEVE



Put an ordinary collar button in the rear or center button hole of the cuff, slide it into the front circular opening, — push it back to regulate the Cuff — an inch or two or simply a white edge can be shown.

THE CUFF WILL STAY WHERE YOU PUT IT.

You take your coat off and hang it up, the Cuffs will require no attention until they need laundering. One pair for every coat you own and happiness will be yours for a dime. Price 10cts. a pair or 50cts. for 6 pairs, by mail, postpaid. Address,
WOODMAN CO., Box 2872, Boston, Mass.

Established 1857

Incorporated 1889



The Pennoyer

(Between Chicago and Milwaukee on
C. & N. W. Ry.)

KENOSHA, WISCONSIN.

A Health-Resort; A Rest-Cure

of the highest grade, conducted upon a most liberal scale, and affording every facility for the successful treatment of chronic diseases. Beautiful grounds (100 acres) with half mile Lake Michigan frontage. Cool summers; no malaria.

For illustrated prospectus address

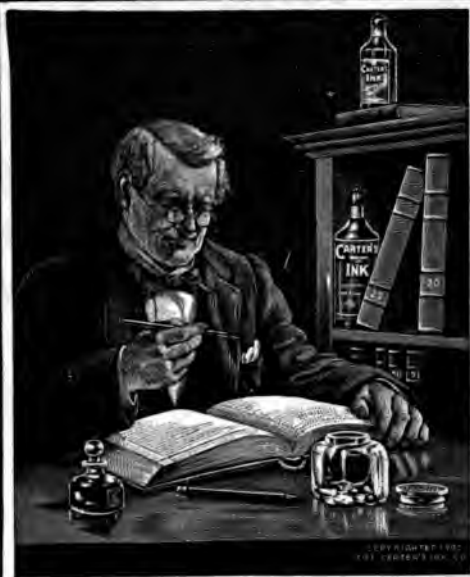
N. A. PENNOYER, M.D., Mgr.

Chicago Office, 70 State St.

Dr. Pennoyer's hours 2 to 4 Tuesdays.

TELEPHONE CENTRAL 500

"AFTER ALL **CARTER'S INK** IS THE BEST"



An Old Bookkeeper is Discriminating

Better take his advice and use CARTER'S

Send for booklet "Inklings"—Free

THE CARTER'S INK CO. • BOSTON, MASS.

THOROUGH BIBLE INSTRUCTION AT HOME

**Under the Instruction of Teachers in
the Highest Institutions of the Country**

Courses of reading and study embracing all grades
from the Elementary to the Professional
TEN THOUSAND STUDENTS AT WORK

Address for new and complete calendar of announcements

The American Institute of Sacred Literature

HYDE PARK, CHICAGO, ILLINOIS

The Summer Quarter of The University of Chicago

*Affords special opportunity for
study in all Schools and Colleges*

THE FIRST TERM, JUNE 17TH TO JULY 24TH

THE SECOND TERM, JULY 25TH TO SEPTEMBER 3D

Instruction will be given in 1903 in

The Colleges of Arts, of Literature, of Science, of
Commerce and Administration

The Graduate School of Arts and Literature

The Ogden Graduate School of Science

The Law School

The School of Medicine

The Divinity School

The School of Education

A circular of information will be sent on application to

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

\$3000.⁰⁰/₁₀₀

Rochester, N.Y. Aug. 1 1902.

Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World
Three Thousand ⁰⁰/₁₀₀ Dollars

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Premo, Peco and other hand cameras with B. & L. Lenses being provided.

Bausch & Lomb Optical Co

ROCHESTER, N. Y.

Who will send full information on request.

Library Smoking Cars

WE have them on all of our fast trains out of Chicago. Buffet, writing desk, card tables, easy chairs, all the periodicals, everything to make one comfortable.

We publish two books, "Colorado" and "California." 72 pages. Informative, beautifully illustrated, and with good maps. They are really works of art. Price six cents each in postage. Send for them *to-day* while you think of it.

**Burlington
Route**

OUR 8200 miles of railroad reach out from Chicago, Peoria and St. Louis to all the important cities in the west and north-west such as

**ST. PAUL
MINNEAPOLIS
OMAHA
KANSAS CITY
DENVER**

If you are going to any of these places or to the Pacific coast, kindly let me send you time tables and other information about our train service.

P. S. EUSTIS,
Pass. Traf. Mgr., C. B. & Q. R. R.
CHICAGO, ILL.



5 CENTS THE CAKE AT DEALERS 5

No housekeeper objects to new worth in a soap at the old price nor to added power in the old form. Lifebuoy Soap is more than soap yet it costs no more but does more. Lifebuoy Soap gives double protection, for it adds to the cleansing value of fine soap a sure power to destroy germs of infectious disease, so that the wood-work and floors, the family washing and the toilet and bath take on new antiseptic and health promoting features. It is an honest, undisguised soap, with its own clean, wholesome scent indicating its antiseptic qualities.

YOUR DEALER CAN SUPPLY YOU.

MONEY REFUNDED IF NOT ENTIRELY SATISFACTORY.

BUFFALO LITHIA WATER

Its Reputation does not Depend upon "Talking Points."

It is Offered to the Public upon its Record of Results Accomplished. Nothing save an Actual Test can be More Satisfactory to the Patient than the Testimony of Eminent Medical Men who have Repeatedly Tested its Merits in Bright's Disease, Albuminuria Renal Calculi, Gout, Rheumatism, and all Uric Acid Troubles.

Cyrus Edson, A. M., M. D., *Health Commissioner of New York City and State, President Board of Pharmacy, New York City; Examining Physician Corporation Council, New York City, etc.,* says: "I have prescribed **BUFFALO LITHIA WATER** with great benefit in **Bright's Disease.**"

Dr. William H. Drummond, *Professor of Medical Jurisprudence, Bishop's University, Montreal, Canada:* "In the Acute and Chronic Nephritis (**Bright's Disease of the Kidneys**) of Gouty and Rheumatic Origin as well as in the graver Albuminuria of Pregnancy, I have found **BUFFALO LITHIA WATER** to act as a veritable antidote, and I know of no other natural agent possessing this important quality."

T. Griswold Comstock, A. M., M. D., *of St. Louis, Mo.,* says: "I have often prescribed **BUFFALO LITHIA WATER** in Gouty and Rheumatic conditions and in Renal Calculi, accompanied with Renal Colic, and always with the most satisfactory results. In Renal Calculi, where there is an excess of Uric Acid, it is especially efficacious."

Dr. Jos. Holt, *of New Orleans, Ex-President of the State Board of Health of Louisiana,* says: "I have prescribed **BUFFALO LITHIA WATER** in affections of the kidneys and urinary passages, particularly in Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra. The results satisfy me of its extraordinary value in a large class of cases usually most difficult to treat."

Voluminous medical testimony of the highest order, which admits of no question or imputation, mailed to any address.

BUFFALO LITHIA WATER is for sale by druggists and grocers generally.

PROPRIETOR BUFFALO LITHIA SPRINGS, VIRGINIA.

Finest in the World
**BAKER'S
 COCOA**



—
 LOOK
 AT
 THE
 LABEL
 —
 TAKE
 NO
 OTHER
 —

CHOICE RECIPES, 50 PAGES, SENT FREE
WALTER BAKER & CO. Ltd.
 ESTABLISHED 1780. DORCHESTER, MASS.
 40 Highest Awards in Europe and America

The
Weber Tone

Distinguished artists
 pay tribute to its
 marked superiority
 by using : : : :

**WEBER
 PIANOS**

EXCLUSIVELY

THE WEBER PIANO COMPANY

108 FIFTH AVENUE, NEW YORK
 266 WABASH AVENUE, CHICAGO

CATALOGUE MAILED FREE ON REQUEST.

COUNT THE HANDS

INSIDE THIS SPACE



Then count all the Hands in your Family,
 then count on.

HAND SAPOLIO

FOR TOILET AND BATH.

because its con-
 tinued use will

REWARD

you with a clear
 and healthy skin

Vose PIANOS

have been established over 30 YEARS. By our system of
 payments every family in moderate circumstances can own
 a VOSE piano. We take old instruments in exchange and
 deliver the new piano to your home free of expense.

Write for Catalogue D and explanations.

VOLUME III



The Elementary School Teacher



MAY, 1903

Chicago: *The University of Chicago Press*

Subscription: \$1.50 per Year : : Single Numbers 20 cents

~~~~~ COPYRIGHT, 1903, BY THE UNIVERSITY OF CHICAGO ~~~~~

Entered at the post-office at Chicago, Illinois, as second-class matter, October 20, 1902



"The Dawn of Civilization" - Good morning!  
have you used —

# The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

## CONTENTS FOR MAY, 1903

### THE ORGANIZATION AND CURRICULA OF THE COLLEGE OF EDUCATION.

|                                                                                                                      |                                  |     |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------|-----|
|                                                                                                                      | <i>John Dewey</i>                | 553 |
| SYLLABI OF COURSES IN SUMMER QUARTER                                                                                 | <i>Willard C. Gore</i>           | 563 |
| <b>EDUCATION:</b>                                                                                                    |                                  |     |
| METHOD OF THE RECITATION. <i>Professor Dewey</i>                                                                     | -                                | 563 |
| EDUCATIONAL PSYCHOLOGY. <i>Assistant Professor Gore</i>                                                              | -                                | 563 |
| FROEBEL'S TEACHINGS AND MODERN PSYCHOLOGY. <i>Miss Payne</i>                                                         | -                                | 564 |
| COURSE OF STUDY IN PRIMARY GRADES. <i>Mrs. Thomsen</i>                                                               | -                                | 568 |
| ROUND TABLES ON ELEMENTARY-SCHOOL WORK                                                                               | -                                | 569 |
| <b>NATURAL SCIENCES:</b>                                                                                             |                                  |     |
| THE TEACHING OF NATURE STUDY. <i>Professor Jackman</i>                                                               | -                                | 570 |
| GEOGRAPHY. <i>Associate Professor Baber</i>                                                                          | -                                | 572 |
| MATHEMATICS. <i>Professor Myers</i>                                                                                  | -                                | 577 |
| <b>SPEECH, ORAL READING, AND DRAMATIC ART.</b>                                                                       |                                  |     |
| <i>Associate Professor Fleming</i>                                                                                   | -                                | 580 |
| <b>ART:</b>                                                                                                          |                                  |     |
| DRAWING AND PAINTING. <i>Associate Professor Duncan</i>                                                              | -                                | 585 |
| MODELING. <i>Miss Covington</i>                                                                                      | -                                | 585 |
| THEORY AND PRACTICE OF EXPRESSION. <i>Miss Cushman</i>                                                               | -                                | 585 |
| <b>MUSIC:</b>                                                                                                        |                                  |     |
| TEACHERS' TRAINING COURSES IN KINDERGARTEN AND<br>ELEMENTARY SCHOOLS. <i>Miss Eleanor Smith and<br/>Mrs. Bradley</i> | -                                | 585 |
| HISTORY. <i>Miss Deratt</i>                                                                                          | -                                | 587 |
| MANUAL TRAINING. <i>Miss Langley</i>                                                                                 | -                                | 592 |
| CHILD HYGIENE. <i>Miss Crawford</i>                                                                                  | -                                | 593 |
| HOUSEHOLD ECONOMICS. <i>Miss Zabriskie</i>                                                                           | -                                | 595 |
| <b>THE MODEL SCHOOLS:</b>                                                                                            |                                  |     |
| KINDERGARTEN PROGRAM. <i>Miss Allen</i>                                                                              | -                                | 596 |
| <b>FIRST GRADE.</b>                                                                                                  |                                  |     |
| Cooking and Related Subjects. <i>Mrs. Thomsen</i>                                                                    | -                                | 597 |
| Literature. <i>Miss Wygant</i>                                                                                       | -                                | 597 |
| Nature Study. <i>Miss Wygant</i>                                                                                     | -                                | 597 |
| <b>FIFTH GRADE.</b>                                                                                                  |                                  |     |
| History: Industrial Chicago. <i>Miss Hall</i>                                                                        | -                                | 599 |
| Literature. <i>Mrs. Thomsen</i>                                                                                      | -                                | 599 |
| Geography. <i>Mrs. Thomsen</i>                                                                                       | -                                | 599 |
| Music. <i>Miss Smith</i>                                                                                             | -                                | 600 |
| <b>SEVENTH GRADE.</b>                                                                                                |                                  |     |
| Science and Number. <i>Miss Wygant</i>                                                                               | -                                | 600 |
| Literature. <i>Miss Hall</i>                                                                                         | -                                | 602 |
| Music. <i>Miss Smith</i>                                                                                             | -                                | 602 |
| THE TRAINING OF THE KINDERGARTNER                                                                                    | <i>Bertha Payne</i>              | 603 |
| FAIRY-TALES AS LITERATURE IN THE SCHOOL                                                                              | <i>Porter Lander MacClintock</i> | 609 |
| THE USE OF BOOKS AND LIBRARIES                                                                                       | <i>Irene Warren</i>              | 620 |
| SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS. V                                                                 | <i>Katharine E. Dopp</i>         | 625 |
| ACADEMIC AND PROFESSIONAL TRAINING OF TEACHERS. II                                                                   | <i>Willard C. Gore</i>           | 632 |
| THE FOLKSONG IN MUSIC, STUDY                                                                                         | <i>Eleanor Smith</i>             | 638 |
| LITERATURE IN THE ELEMENTARY SCHOOL. II                                                                              | <i>J. Rose Colby</i>             | 646 |
| EDITORIAL: THE SCHOOL AND THE HOME                                                                                   | <i>Alice Peloubet Norton</i>     | 657 |

Hereafter No. 1 of the new volume will be published in September.

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in August and September; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to

THE UNIVERSITY OF CHICAGO PRESS,

CHICAGO, ILLINOIS

# NOTABLE NEW BOOKS

## THE MORSE READERS

Practical Graded Text, Five Books

By THOS. M. BALLIET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Universally indorsed as the best Grade-Readers.

**MORSE'S EDUCATIONAL SYSTEM** and the **NATURAL-MOVEMENT METHOD COPY BOOKS** (Medial.) Many original features but thoroughly practical. 20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material. Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

## THE MORSE COMPANY

8 Beacon St., BOSTON

The Bank of Metropolis Building, 31 Union Square,  
New York City, B'way and 16th Street

224 Wabash Ave., CHICAGO

### HARVARD UNIVERSITY

#### THE SUMMER SCHOOL OF ARTS AND SCIENCES

offers 83 courses of instruction in Sanskrit, Greek, Latin, English, German, French, Spanish, Russian, Public Speaking, History and Government, Economics, Psychology, Education, Theory of Design, Drawing, Music, Mathematics, Surveying, Shop-work, Physics, Chemistry, Botany, Geology, Geography, and Physical Education. The courses are designed for teachers, but are open to all qualified men and women. *July 6 to August 14, 1903.* Reduced railway rates on account of the meeting of the National Educational Association in Boston. The Announcement and detailed information will be sent on application to J. L. LOVE, 16 University Hall, Cambridge, Mass.

N. S. SHALER, *Chairman.*

### Manners—Morals

"What mother, what teacher, has not wished for a book that shall present in small compass a friendly, but withal complete, explanation of all those points in manners and morals which the conduct of some one of her children, some one of her pupils, daily (yes, hourly) presses her to explain!—the *raisons d'être* of the many exactions in the matter of conduct which children have to learn by humiliating experience, if not opportunely instructed by their older friends. The children in every home will be the happier, and at once the greater pride to their parents, their teachers, and their friends, if Mrs. Dewey's two new books are placed in their hands to be perused at home and to be studied at school."—*SCHOOL AND HOME EDUCATION*, March, 1900.

Lessons on Manners, Mrs. Dewey, 75 cts.

Lessons on Morals, Mrs. Dewey, 75 cts.

HINDS & NOBLE, Publishers

31-33-35 West 15th Street, N. Y. City  
*Schoolbooks of all publishers at one store*

### THE COLORADO TEACHERS' AGENCY

FRED DICK, Ex-State Superintendent, Manager,

WE WANT COMPETENT TEACHERS.

WE RECOMMEND NO OTHERS.

1543 Glenarm Street, DENVER, COLORADO.

#### The James F. McCullough Teachers' Agency

Fine Arts Building, Chicago

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—**Try McCullough.**

Hundreds of Teachers Have Annually Been Benefited

#### The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager

378-388 Wabash Avenue - CHICAGO

SEND FOR "OUR PLATFORM"

### Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers

The University of Chicago Press, Chicago, Illinois

# 300,000

*copies of The Rand, McNally*

## SPELLER

*have been sold during the last  
ten months.*

The author is  
**EDWIN C. HEWETT, LL. D.,**  
*formerly President of the Illinois  
State Normal University  
at Normal, Illinois.*

The Price is 25 CENTS.

The Publishers are  
**RAND, McNALLY & COMPANY,**  
Chicago and New York.

# SCHOOL MAPS

THE day is already here when accurate and convenient maps are considered an essential part of the equipment of every school. Few teachers would undertake to teach the subject of geography or history without a set of down-to-date maps. For nearly fifty years Messrs. Rand, McNally & Co. have been the largest map makers in America. Their imprint corresponds to the "Sterling" mark on silverware, and stands for accuracy, completeness, and convenience. Their information is secured from official sources and each map is carefully revised with each printing.

**RAND, McNALLY & CO.**  
PUBLISHERS  
CHICAGO NEW YORK LONDON

## A Delightful and Instructive Summer Vacation for Teachers

A trip to Jamaica, "The Queen of the Antilles," is the most delightful and profitable summer vacation that a tired teacher can enjoy. Combining a season of healthful rest with a continued series of educational object lessons, an interesting five-day sea voyage of 1588 miles takes you to an "Isle of Fronded Palms," to a foreign land, among foreign sights and foreign people, yet speaking your language. You will be charmed with the lofty mountains, and fascinated with the luxuriant growth of brilliant tropical vegetation, rare plants, palms, ferns, fruits, and gorgeous flowers in riotous profusion, and, stealing gently over all, a quiet, dreamy, peaceful atmosphere of rest, so pure and clear that the moon and stars will seem to be nearer; and in the south will blaze that mystic constellation, "the Southern Cross." The trade winds, acting like a huge electric fan, will keep a delicious spice-laden breeze in motion, so tempering the air that there will be no hot, stifling days, or dull, enervating nights. The thermometer varies only from 70° to 88°. Should you enjoy sea-bathing, you will find clean, hard, white, sandy beaches everywhere along the coast, laved with the milk-warm, crystal-blue, gulf-stream current, without fear of sharks or



undertow. A dip in the Caribbean here will give you a sense of renewed vigor and delight. Should you enjoy riding, bicycling, or strolling, you will find hundreds of miles of smooth, hard, well-kept roads and by-paths; and if you desire mountain climbing here is the famous Blue Mountain range, many peaks towering nearly 8,000 feet above the sea, from whose lofty terraces your eye will feast on the most magnificent views to be seen on this continent. The usual annoying pests of our summer resorts, such as flies, mosquitoes, snakes, fogs, and fevers, are totally absent. Steam and electric railroads extending to various points of the island will enable you to make many delightful excursions among towns and villages whose histories and records date far back of our United States civilization. On every hand you will find unusual opportunity for study of history, geology, geography, botany and astronomy. Elegant American or English well-kept hotels or boarding-houses will permit you to remain for a short or long vacation at any desired rate. The staunch twin-screw "Admiral" steamers leave Boston every Wednesday and Friday. Round trip tickets, including meals and state-room berths, \$60.00, good from May 1st to October 1st.

Write for free booklet "Tropical Holiday." Address **UNITED FRUIT CO., Long Wharf, Boston.**

# The Corner Stone

OF MANY A MAN'S SUCCESS HAS  
BEEN HIS FIRST PAYMENT ON AN  
ENDOWMENT POLICY IN

# The Prudential

IT MAY MARK THE COMMENCE-  
MENT OF YOUR GOOD FORTUNE  
IF YOU TRY IT.

*Write to day  
for Endowment Rates  
at your age*

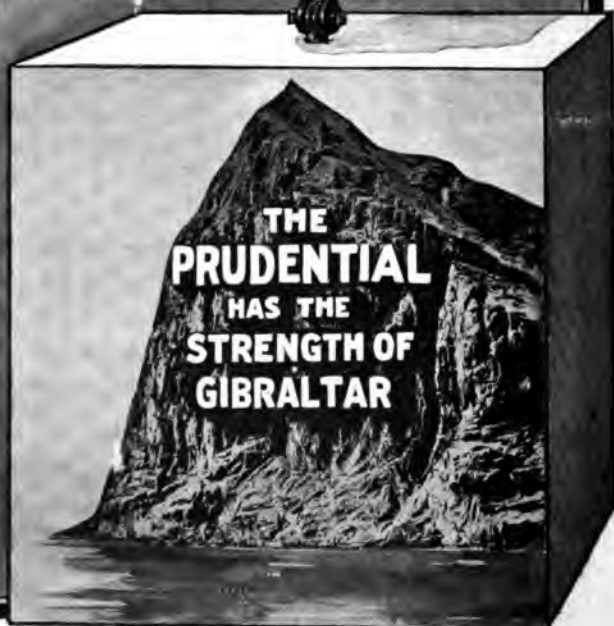
Amounts  
\$1,000  
To \$100,000

**THE  
PRUDENTIAL**  
INSURANCE CO.  
OF  
AMERICA.

JOHN F. DRYDEN  
President.

HOME OFFICE  
NEWARK, N.J.

Dept. 25



# THE ELEMENTARY SCHOOL TEACHER

MAY, 1903

## THE ORGANIZATION AND CURRICULA OF THE COLLEGE OF EDUCATION.

### I. PREREQUISITE FOR ADMISSION TO PROFESSIONAL WORK.

Students are admitted as classified and unclassified students.

1. Candidates are admitted as classified students upon the basis of two years' scholastic work over and above a high-school course of at least four years. These two years' work may be done either in colleges or training schools for teachers. It is recommended that the latter be inspected, graded, and accredited through the same University machinery, and upon the same basis, as that now used in analogous cases. This implies that certain students may be admitted to partial standing in the School of Education with the right to transfer to complete standing as soon as certain deficiencies have been completed. (See 2 and II, a.)

2. Candidates are admitted as unclassified students who are graduated from an approved high school; who have had two years' experience in teaching, and have reached twenty-one years of age; and who show themselves prepared to take up study with advantage to themselves; (a) such unclassified students shall be admitted to take at one time not more than two studies in the regular courses; and shall take at least one course in fulfilment of prerequisites for admission as a classified student; (b) but if, in addition to the above requirement, such unclassified students show that they have fulfilled all the requirements for some one line of work, show good reason for not taking a regular course, and also receive the formal recommendation of the instructor in charge of the line of work in which they wish to specialize, they may be permitted to specialize in one line of study.

### II. GRADUATION.

The curriculum is to be so arranged that, taken in connection with the fulfilment of entrance requirements, it may lead to the degree of A.B., Ph.B., or S.B., and also to a Bachelor's diploma in education.

a) It is recommended that statements be prepared showing the amount of work, including both prerequisites for admission and work in the School of Education, required for graduation in each of the courses under III, and that, so far as possible, a system of compensations and transfers be established—similar to the existing statements regarding the "Preparatory and Junior College Schedule Combined," such as is found upon p. 71 of the *Annual Register* for 1901-2. It is expected that in this



way both the Bachelor's degree and the diploma in Education may be secured in from two to three years' residence, according to previous attainments.

b) It is recommended that the curriculum leading to one of these degrees be so constituted as not to include an ancient language, excepting as an elective.

### III. NOMENCLATURE.

The committee recommends the following names for the constituent parts of the School of Education:

1. The College of Education, for the professional work.
2. The University High School, for the combined secondary schools—it being understood that the Chicago Manual Training School constitutes the technological course of the University High School, and as such has its own Dean, Course of Study, Circulars, etc.
3. The Schools, with such distinguishing prefixes as may be determined, for the present University Elementary School, the Laboratory School, and other such schools as may be added from time to time.

### THE CURRICULA.

Three classes of curricula have been arranged in the College of Education:

- I. Courses in Arts and Technology.
- II. A General Course for kindergartners, elementary-school teachers, critic teachers, departmental supervisors in elementary schools, etc.
- III. Courses for students preparing to teach in secondary schools.

#### I. COURSES IN ARTS AND TECHNOLOGY.

Work in these courses will not lead to a degree. The prerequisites (academic, technological, and as regards experience) will be determined by a committee of the College on Arts and Technology. All persons thinking of entering upon work in any of the following courses should therefore enter into correspondence with the authorities of the College of Education as soon as possible. It will be noted that the following courses are all arranged on the same general plan, viz., 5 Majors in educational theory, 7 Majors in the technical aspects of the subject specialized in, and 6 Majors of elective work. These 18 Majors constitute a course of two years. A Major is regularly 5 hours of work per week. All technological and handwork is upon the basis of University laboratory courses, viz., 2 hours of such work are the equivalent of 1 hour of a regular recitation or lecture.

1. *Music.*
2. *Speech, Oral Reading, and Dramatic Art.*
3. *Drawing and Painting.*
4. *Modeling.*
5. *Textiles.*
6. *Household Arts.*
7. *Woodworking.*
8. *Metal-Work.*

## II. THE GENERAL COURSE.

1. *General prerequisites for admission.*—These include:

a) Graduation from a high school or academy accredited by the University of Chicago, or from a school of like standing.

The work of such secondary school must cover the same amount of work required for admission into the Junior Colleges of the University, viz., 15 units. It must also include the units prescribed for admission to all courses, excepting the two units of Latin, for which language work, other than English, may be substituted. The prescribed units are:

History: 1 unit.

English: 2 units.

Mathematics:  $2\frac{1}{2}$  units.

Physics: 1 unit.

Foreign Language: 2 units.

The remaining  $6\frac{1}{2}$  units may be selected from the official list already provided with reference to admission to a Junior College.

b) Two years' work of a college grade over and above the high-school work already described. This may be done either in a college, or in a normal, or in a training school for teachers.

When the work of such schools has been accredited by the University authorities, it will count in the fulfilment of the specified requirements (given below) for admission to the College of Education. Students graduating from schools whose work has not been so accredited will be admitted on probation, with the understanding that the work they have done will be compared with the list of requirements for admission; and that deficiencies are to be made up either in a Junior College of the University or in the School of Education.

2. *Specific requirements (beyond admission to college) for admission to the General Course in the School of Education.*

|                                                  |        |
|--------------------------------------------------|--------|
| Philosophy (including Psychology and Ethics) and |        |
| Educational Theory and Practice                  | 2 Mjs. |
| English                                          | 2 Mjs. |
| History                                          | 2 Mjs. |
| Modern Language, other than English              | 2 Mjs. |

NOTE.—In case these 2 Majors, taken in connection with previous work in Modern Language in the high-school course, do not give the student a reading knowledge of at least one Modern Language other than English, additional Majors will be required.

|             |        |
|-------------|--------|
| Mathematics | 2 Mjs. |
| Science     | 4 Mjs. |

NOTE.—Of these four, 1 should be in Botany, 1 in Physiography, and the other 2 in Chemistry or Geology, or in the Biological group.

|        |       |
|--------|-------|
| An Art | 1 Mj. |
|--------|-------|

NOTE.—This may be Drawing, Shopwork, etc. If not presented for admission, it becomes a condition and is to be taken in the College of Education.

|           |        |
|-----------|--------|
| Electives | 3 Mjs. |
|-----------|--------|

NOTE.—These Majors may be selected from any of the subjects named in the above list, or from an Ancient Language.

3. *Curricula of the General Course.*—The General Course includes 18

Majors, or two years' work, and, based upon the fulfilment of the preceding requirements *a*) and *b*), is of the grade of a Senior College in the University. The course is as follows:

|                                    |           |        |
|------------------------------------|-----------|--------|
| Education                          | - - - - - | 3 Mjs. |
| History, English, and Oral Reading | - - - - - | 3 Mjs. |
| Arts                               | - - - - - | 2 Mjs. |
| Mathematics                        | - - - - - | 1 Mj.  |
| Science, including Geography       | - - - - - | 3 Mjs. |

NOTE.—The work in Arts is upon the basis of laboratory courses in the University, 2 hours being the equivalent of 1 hour in lecture or recitation.

|           |           |        |
|-----------|-----------|--------|
| Electives | - - - - - | 6 Mjs. |
|-----------|-----------|--------|

NOTE.—These electives may be selected from any of the subjects mentioned in the above list. The student may either distribute these electives with a view to general teaching, or may concentrate them to specialize for kindergarten teaching, critic teaching, departmental teaching, etc.

4. *Graduation from the General Course.*—Completion of the entrance requirements *a*) and *b*) and of the necessary 18 Majors of the curriculum of the College of Education will entitle a student to receive a special diploma in Education, and also an appropriate Bachelor's degree. The work represents four years over and above graduation from a high school of recognized grade.

### III. COURSES PREPARATORY TO TEACHING IN SECONDARY SCHOOLS.

These courses have the following features in common:

1. They presuppose the completion of the course of one of the Junior Colleges, or of its equivalent, under present University regulations.
2. They require a certain amount of work in educational theory after the completion of the Junior College work. The amount varies from 4 to 5 Majors in different courses.
3. They require completion of a certain amount of work in the particular subject which the person intends to teach in a secondary school. This varies from 6 to 8 Majors in the different subjects.<sup>1</sup>

These subjects are classified as follows, and constitute the various courses in which an intending high-school teacher may specialize:

|                                  |                                         |
|----------------------------------|-----------------------------------------|
| History and Civics.              | Mathematics.                            |
| Greek.                           | Physics.                                |
| Latin.                           | Chemistry.                              |
| French.                          | Geography, Physiography, and Geology.   |
| German.                          | Biology (including Zoölogy and Botany). |
| English Language and Literature. | Home Economics.                         |

4. They require the completion of a sufficient amount of elective work to make up the 18 Majors required for graduation from a Senior College.

NOTE.—In case the student enters upon a course looking toward teaching in a secondary school without having completed certain subjects in the Junior College, these subjects will have to be taken from the elective work of the Senior College. Psychology and Ethics are required for graduation and do not count in fulfilment of the 4 or 5 specified Majors in Education. Each one of the subjects listed also demands completion of certain courses in the Junior Colleges which may, in certain cases, exceed

<sup>1</sup> See also note under III, 4.

the amount necessary to fulfil the requirements of a Junior College course. In such cases the deficiency must be made up in the Senior College.

*Graduation from courses preparatory to teaching in secondary schools.—*

The courses as outlined above are based upon the present provisions for receiving the degree of either A.B., Ph.B., or S.B. in the University, according to the character of the student's work. In addition, the completion of any one of the courses specified will entitle the student to a professional diploma in Education from the College of Education.

*The Senior College Curricula are as follows:*

*History and Civics.*

|                                        |           |               |
|----------------------------------------|-----------|---------------|
| Education:                             |           |               |
| General                                | - - - - - | 3 Mjs.        |
| Special                                | - - - - - | 1 Mj.         |
|                                        |           | <hr/> 4 Mjs.  |
| Political Science: Civil Government of |           |               |
| the United States                      | - - - - - | 1 Mj.         |
| History                                | - - - - - | 6 Mjs.        |
| Teachers' Training Course in History   | - - - - - | 1 Mj.         |
| Sociology: Social Origins              | - - - - - | 1 Mj.         |
| Geography                              | - - - - - | 1 Mj.         |
| Electives <sup>1</sup>                 | - - - - - | 4 Mjs.        |
|                                        |           | <hr/> 18 Mjs. |
| Total                                  | - - - - - |               |

*Greek.*

|                        |           |               |
|------------------------|-----------|---------------|
| Education:             |           |               |
| General                | - - - - - | 3 Mjs.        |
| Special                | - - - - - | 1 Mj.         |
|                        |           | <hr/> 4 Mjs.  |
| History: Greek History | - - - - - | 1 Mj.         |
| Classical Archæology   | - - - - - | 1 Mj.         |
| Greek                  | - - - - - | 6 Mjs.        |
| Electives              | - - - - - | 6 Mjs.        |
|                        |           | <hr/> 18 Mjs. |
| Total                  | - - - - - |               |

*Latin.*

|                                                 |           |               |
|-------------------------------------------------|-----------|---------------|
| Education:                                      |           |               |
| General                                         | - - - - - | 3 Mjs.        |
| Special                                         | - - - - - | 1 Mj.         |
|                                                 |           | <hr/> 4 Mjs.  |
| History: Roman History                          | - - - - - | 1 Mj.         |
| Classical Archæology                            | - - - - - | 1 Mj.         |
| Latin:                                          |           |               |
| Tacitus' <i>Germania</i> and <i>Agricola</i>    | - - - - - | 1 Mj.         |
| Cicero's <i>Letters</i>                         | - - - - - | 1 Mj.         |
| Latin Writing                                   | - - - - - | 1 Mj.         |
| Ovid                                            | - - - - - | 1 Mj.         |
| Teachers' Courses: General, 2 Mjs. <sup>2</sup> | - - - - - | 1 Mj.         |
| Cæsar                                           | - - - - - | 1 Mj.         |
| Cicero and Virgil                               | - - - - - | 1 Mj.         |
|                                                 |           | <hr/> 7 Mjs.  |
| Electives                                       | - - - - - | 5 Mjs.        |
|                                                 |           | <hr/> 18 Mjs. |
| Total                                           | - - - - - |               |

<sup>1</sup> In case the student is preparing to teach Civics as well as History, most of these electives should be taken in Political Science.

<sup>2</sup> One of the teachers' courses counts as the fourth course in Education, specified above, and accordingly is not included in this total.





*Biology (including Zoölogy and Botany).*

|                                |           |                     |
|--------------------------------|-----------|---------------------|
| Education :                    |           |                     |
| General                        | - - - - - | 3 Mjs.              |
| Special                        | - - - - - | 1 Mj.               |
|                                | -----     | 4 Mjs.              |
| Chemistry: General Chemistry   | - -       | 2 Mjs.              |
| Geology: Physiography          | - - -     | 1 Mj.               |
| Zoölogy:                       |           |                     |
| General Zoölogy                | - - - - - | 1 Mj.               |
| Field Course                   | - - - - - | 1 Mj.               |
| Invertebrate Zoölogy           | - - - - - | 2 Mjs.              |
| Zoögeography                   | - - - - - | 1 Mj.               |
|                                | -----     | 5 Mjs. <sup>1</sup> |
| Physiology: General Physiology | -         | 1 Mj.               |
| Botany:                        |           |                     |
| Morphology                     | - - - - - | 1 Mj.               |
| Physiology                     | - - - - - | 1 Mj.               |
| Ecology                        | - - - - - | 1 Mj.               |
| Physiographic Botany           | - - - - - | 1 Mj.               |
|                                | -----     | 4 Mjs. <sup>2</sup> |
| Electives, enough to make 18   | - - -     | 1-12 <sup>3</sup>   |
|                                | -----     | 18 Mjs.             |
| Total                          | - - - - - | 18 Mjs.             |

*Home Economics.*

|                                                                        |           |             |
|------------------------------------------------------------------------|-----------|-------------|
| Education                                                              | - - - - - | 4 Mjs.      |
| Sociology:                                                             |           |             |
| House Sanitation (Department of Sociology, Course 52)                  | - - - - - | 1 Mj.       |
| Sanitary Aspect of Food and Water (Department of Sociology, Course 43) | - - -     | 1 Mj.       |
| Food and Dietetics (School of Education)                               | 1 Mj.     |             |
| Evolution of the House (School of Education)                           | - - - - - | 1 Mj.       |
|                                                                        | -----     | 3 of the 4. |
| Chemistry: <sup>4</sup>                                                |           |             |
| Analytical Chemistry (Department of Chemistry, Courses 6, 7, and 8)    | - - -     | 3 Mjs.      |
| Elementary Organic Chemistry                                           | - - -     | 1 Mj.       |
|                                                                        | -----     | 4 Mjs.      |
| Physiological Chemistry                                                | - - -     | 1 Mj.       |
| Bacteriology                                                           | - - -     | 1 Mj.       |
| Electives                                                              | - - - - - | 5 Mjs.      |
|                                                                        | -----     | 18 Mjs.     |
| Total                                                                  | - - - - - | 18 Mjs.     |

In each case it is understood that the special subjects mentioned in the special course are subject to modification, when other courses will, in the judgment of the head of a University department and with the approval of a Director of the School of Education, better meet the needs of the intending teacher.

<sup>1</sup> The student preparing to teach Zoölogy, especially, should take at least two additional Majors of Zoölogy. In this case, one of the two may be substituted for the fourth Major of Botany.

<sup>2</sup> If the student is preparing to teach Botany, especially, three additional Majors of Botany are recommended. In this case one of the above Majors in Zoölogy may be omitted.

<sup>3</sup> Within these limits, 1-12 Majors, the number depends on the work done previous to admission to the School of Education. (See "Pre-Pedagogical Courses," p. 553.)

<sup>4</sup> General Chemistry is presupposed.

## IV. PROPOSED PRE-PEDAGOGICAL COURSES IN THE JUNIOR COLLEGES.

The foregoing points give the essentials of the arrangements of Senior-College work with reference to preparation for teaching in secondary schools. The Faculty of the School of Education recommends to the other faculties concerned the following permissive modifications of the existing work of the Junior Colleges:

1. *For Teachers of History and Civics.*

|                               |           |         |
|-------------------------------|-----------|---------|
| Philosophy :                  |           |         |
| Psychology                    | - - - - - | 1 Mj.   |
| Ethics                        | - - - - - | 1 Mj.   |
|                               |           | <hr/>   |
|                               |           | 2 Mjs.  |
| History                       | - - - - - | 3 Mjs.  |
| Language (other than English) | - - - - - | 4 Mjs.  |
| English Composition           | - - - - - | 2 Mjs.  |
| Mathematics :                 |           |         |
| Trigonometry                  | - - - - - | 1 Mj.   |
| College Algebra or Surveying  | - - - - - | 1 Mj.   |
|                               |           | <hr/>   |
|                               |           | 2 Mjs.  |
| Science :                     |           |         |
| Physiography                  | - - - - - | 1 Mj.   |
| General Zoölogy,              | }         | 1 Mj.   |
| Zoögeography, or              |           |         |
| Elementary Botany             |           |         |
|                               |           | <hr/>   |
|                               |           | 2 Mjs.  |
| Electives                     | - - - - - | 3 Mjs.  |
|                               |           | <hr/>   |
| Total                         | - - - - - | 18 Mjs. |

2. *For Teachers of Greek and Latin.*

Same as now in the College of Arts.

3. *For Teachers of French.*

|                     |           |         |
|---------------------|-----------|---------|
| Philosophy          | - - - - - | 2 Mjs.  |
| History             | - - - - - | 2 Mjs.  |
| French              | - - - - - | 5 Mjs.  |
| English Composition | - - - - - | 2 Mjs.  |
| Mathematics         | - - - - - | 2 Mjs.  |
| Science             | - - - - - | 2 Mjs.  |
| Electives           | - - - - - | 3 Mjs.  |
|                     |           | <hr/>   |
| Total               | - - - - - | 18 Mjs. |

4. *For Teachers of German.*

|                     |           |         |
|---------------------|-----------|---------|
| Philosophy          | - - - - - | 2 Mjs.  |
| History             | - - - - - | 2 Mjs.  |
| German              | - - - - - | 5 Mjs.  |
| English Composition | - - - - - | 2 Mjs.  |
| Mathematics         | - - - - - | 2 Mjs.  |
| Science             | - - - - - | 2 Mjs.  |
| Electives           | - - - - - | 3 Mjs.  |
|                     |           | <hr/>   |
| Total               | - - - - - | 18 Mjs. |



5. *For Teachers of English.*

|                                      |   |   |   |   |   |   |   |                     |
|--------------------------------------|---|---|---|---|---|---|---|---------------------|
| Philosophy                           | - | - | - | - | - | - | - | 2 Mjs.              |
| History                              | - | - | - | - | - | - | - | 2 Mjs.              |
| Modern Language (other than English) | - | - | - | - | - | - | - | 3 Mjs. <sup>1</sup> |
| English                              | - | - | - | - | - | - | - | 4 Mjs.              |
| Mathematics                          | - | - | - | - | - | - | - | 2 Mjs.              |
| Science                              | - | - | - | - | - | - | - | 2 Mjs.              |
| Electives                            | - | - | - | - | - | - | - | 3 Mjs.              |
| Total                                | - | - | - | - | - | - | - | 18 Mjs.             |

6. *For Teachers of Science and of Home Economics.*

## Philosophy:

|            |   |   |   |   |   |   |       |        |
|------------|---|---|---|---|---|---|-------|--------|
| Psychology | - | - | - | - | - | - | 1 Mj. |        |
| Ethics     | - | - | - | - | - | - | 1 Mj. |        |
|            |   |   |   |   |   |   |       | 2 Mjs. |

## History:

|               |   |   |   |   |   |   |       |        |
|---------------|---|---|---|---|---|---|-------|--------|
| Modern Europe | - | - | - | - | - | - | 1 Mj. |        |
| United States | - | - | - | - | - | - | 1 Mj. |        |
|               |   |   |   |   |   |   |       | 2 Mjs. |

Language \* (not English) - - - - 4 Mjs.<sup>3</sup>

English Composition - - - - 2 Mjs.

## Mathematics:

|                 |   |   |   |   |   |   |       |        |
|-----------------|---|---|---|---|---|---|-------|--------|
| Trigonometry    | - | - | - | - | - | - | 1 Mj. |        |
| College Algebra |   |   |   |   |   |   | 1 Mj. |        |
| or Surveying    |   |   |   |   |   |   |       | 2 Mjs. |

Electives: Within Science <sup>4</sup>(including Mathematics) 6 Mjs.

Total - - - - - 18 Mjs.

<sup>1</sup> The requirement in Language shall not extend beyond a reading knowledge of two languages other than English. A reading knowledge of two languages other than English will be required, even though more than three Majors are necessary to secure this result.

<sup>2</sup> The requirement in Language shall not extend beyond a reading knowledge of two languages other than English.

<sup>3</sup> In case the student does not present Latin or Greek, a reading knowledge of two Modern Languages other than English will be required, even though more than four Majors are necessary to this end.

<sup>4</sup> Two Majors in each of the following subjects in which University credit was not given on admission: (1) Chemistry, (2) Physiography and Geology, (3) Biology (Zoölogy, Botany, Physiology).

## SYLLABI OF COURSES IN SUMMER QUARTER.

### EDUCATION.

#### METHOD OF THE RECITATION.

PROFESSOR DEWEY.

THE course will include a discussion of the function of recitation in the process of education. This will be taken up from both the social and the intellectual sides. Upon the social side the problem of individual and class teaching will be briefly discussed. Some use will be made of recent discussions in social psychology in indicating some of the ways in which social conditions modify the development of the individual. The main emphasis of the course, however, will be upon the intellectual side of the recitation. Upon this side the recitation will be discussed as furnishing the medium through which intellectual control or direction of mental processes is secured. Since the problem of intellectual control is that with which logic is concerned, the discussion will be carried on chiefly in terms of logical method. From this point of view the formal steps of the Herbartian school will be set forth and criticised. There will then be a brief discussion of the nature and value of experimentation of abstraction, symbols, comparison, induction, deduction, classification, and generalization, with special reference to the materials and methods available in class-work which represent these various logical functions.

Students who have not had a course in elementary logic should, if possible, familiarize themselves with Jevons, Fowler, Welton, Creighton, or some other elementary text-book in logic before taking the course. McMurry's *Method of the Recitation* gives a convenient summary of the Herbartian formal steps of instruction, and will be useful for reference during the course.

#### SYLLABUS OF COURSE IN EDUCATIONAL PSYCHOLOGY.

ASSISTANT PROFESSOR GORE.

*First three weeks.*—Discussion of problems set for psychology by education (*e. g.*, problems regarding attention, interest, moods, temperaments, forming of habits, memory, discipline, etc.) and of psychological principles available or relevant. The discussion will center about the psychology of habit and attention. This will be approached from the biological side with a study of the reflex-arc concept, the general structure of the nervous system, instinct, and adaptation; and will be followed by a psychological analysis of the different

types and stages of attention, and by a brief study of relations between habit and attention.

*Second three weeks.*—Psychology of typical forms of play, constructive work, and art. The discussion here will center about the psychology of mental imagery, the function of mental imagery in growth.

The problem of technique and appreciation—the meaning of the separation of the two in some phases of school-work; their psychological interdependence. Illustrative material bearing on this last point will be drawn from methods of teaching English grammar, composition, and literature.

*Third three weeks.*—Psychology of constructive work and art continued. Psychology of control, of imitation, and invention. Development of social personality, of consciousness of social and ethical relations.

The problem of interest and discipline.

*Fourth three weeks.*—Psychology of science work, of observation and experiment. Development of concepts, reasoning, judgment. Study of conditions that tend to arrest the development of questioning attitude into attitude of scientific inquiry; those that tend to direct and develop it. Illustrative material bearing on this point will be drawn from laboratory methods and text-books, especially in biology.

The problem of form and content. Meaning of the separation of the two in some phases of school work and in current educational discussions.

REFERENCES: The books most often referred to in this course will be: Baldwin, *Social and Ethical Interpretations in Mental Development*, and *Development and Evolution* (especially in connection with topics on imitation and invention, and the development of social personality); Dewey, *Psychology* (especially in connection with the analysis of attention, chap. iv; of concept, judgment, and reasoning, chap. viii; of æsthetic appreciation, chap. xv; and of the development of volition, chaps. xviii and xix); Donaldson, *The Growth of the Brain* (for data bearing on the structure of the nervous system); Groos, *The Play of Man* (for data bearing on the study of play and art); James, *Psychology, Briefer Course* (especially in connection with the study of the nervous system, chaps. vii, viii, and ix; instinct, chap. xxv; habit, chap. x; imagination, chap. xix; and will, chap. xxvi); Loeb, *Comparative Physiology and Psychology of the Brain* (for data bearing on the function of the nervous system).

## FROEBEL'S TEACHINGS AND MODERN PSYCHOLOGY.

MISS PAYNE.

EVERY important practical question relating to school life, whether of subject-matter, of method, or of discipline, has its roots either in psychology or in sociology. The kindergarten has had a philosophy of its own in the teachings of Froebel. His writings yield psychologic truth and social doctrines to which the kindergartner goes for light upon these practical questions. The aim of this course will be to review some of the main statements of modern psychology, and to discuss some of these questions of general

significance from this point of view, and again from a strictly Froebelian standpoint.

Froebel's work was done before the theory of evolution had colored all thought and directed research; nevertheless his generalizations are, in the main, in harmony with those of the modern school of psychology. He believed that the divine principle revealed itself in the growth of the human being, and in all nature. He therefore revered the process of growth, he believed that to educate children one must study children, and that from earliest childhood one may find in the child himself hints of needs which to satisfy is to educate. To find what is psychologic in his writings, one must sift a mass of philosophy, poetic musings, and practical directions. It is interesting to select some of these statements and place them side by side with later accepted psychologic conclusions.

Dr. John Dewey says: "The unit of consciousness is an act; this act consists of a stimulus, and its co-ordination in or with a response. The highest order of thought is simply an elaboration of the central or coördinating process in this unity." Froebel says: "If we strive to grasp in a common unity this process of development, we find an element which manifests itself in the following forms: first, as a germinating and developing power, working from within outward; second, as a receptive power, from without inward; third, as an assimilative and formative energy, synthesis of the preceding powers. Thus the pivot upon which all turns is the recognition of life, of activity."

Psychology teaches that the reaction of a stimulus causes a movement first along the nearest path of discharge; for example, an incoming sensation from an infant's hand sets up a commotion in the central process which travels directly out along motor nerves to the hand; irritation of the sole of the foot causes a foot movement; contact of the lips with something foreign causes a sucking movement; and so on. Later the ganglionic connections and the action of central processes become more complex, an incoming stimulus takes a longer route, co-ordinations are formed, and several outward movements then take place as a result of motor discharges along several sets of motor nerves. Now the hand may reach for an object that announced itself by a sensory stimulus through the eye. The infant has arrived at a higher stage of development. Froebel says: "How different are the motor activities from the activities of sense, yet how each reacts upon the other! Each one of our baby plays has shown us either the recoil of movement upon sensation or of sensation upon movement. Not only is there reaction between motor activity and the activity of sense, but the activity of one sense excites the activity of other senses."

All consciousness is motor—this has become axiomatic. Froebel's whole scheme of plays and occupations is a recognition of this truth. He says: "Thought must clear itself in action and action resolve itself in thought." One most significant point in Froebel's creed is his statement of the impor-

tance of watching the reaction of bodily condition upon mental condition. This is being defined and cleared in many psycho-physical studies. James's theory of the emotions stands as one dividing mark between the old psychology and the new.

It is in the investigation of physical and psychical relations that the experimental school has brought the most appreciable criticism upon the work and play of little children. Here science has done for education what philosophy alone could not do. The resultant additions to brain and sense, physiology and hygiene, so enlarge our knowledge of the child as a nervous organism that we can criticise the demands that the activities of the kindergarten make upon him with a certainty impossible heretofore.

We find throughout Froebel's writings allusions to the stages of growth. The psychologist has announced a law of relation between the full realization of one stage and the succeeding, and has urged the necessity of full and complete exercise and nutrition at each stage. Froebel said: "Give to each stage that which the stage demands." At the same time he emphasizes the necessity for continuous development throughout these stages.

A summary of the periods of growth leading from infancy to seven years might be made somewhat as follows:

1. Period of spontaneous and reflex movement through which sensations, percepts, stimulus to controlled movement, and power of control begin to be acquired.
2. Period of increased sense-perception, image-forming, and acquisition of co-ordinated movements; sense of personality begins to show in the response to touch and presence of different individuals.
3. Interpretation of world of objects in real significance; recognition of persons; discovery of personal agency in producing effects.
4. Imitation furnishes new modes of control and a larger acquaintance with persons, their feelings and desires; stronger bond between self and others.
5. Speech and locomotion enlarge the range of experiences; interpretation of the natures of persons and things through representation, dramatization, and creation of new meanings for familiar objects; play in its higher sense; discovery of new uses and combinations; selection of means to an end.
6. Forming ends to be reached by processes which may or may not be pleasurable in themselves; means are tried and rejected or modified, involving deliberation, comparison, judgment, and conscious plan; the more remote the end, the less it is pursued for the enjoyment of the process of realization, the more the work element enters and play retires.

REFERENCES: Froebel, *Education of Man*; Preyer, *Infant Mind*; Shinn, *Biography of a Baby*; Baldwin, *Mental Development, Methods and Processes*; James, *Psychology*; Wundt, *Outlines of Psychology*, chapters on "The Child" and "Social Communities;" Dewey, "Some Principles of Mental Development in Early Infancy;" *Transactions of the Illinois Society for Child Study*.

## QUESTIONS.

*Sequence.*—Is it possible so to use Froebel's schools of handwork that children who are not yet in the formulating stage of thinking are made to carry out prematurely a grammar of form?

*Play.*—Is the line too sharply drawn between play and work at the conclusion of the kindergarten experience? Should work be done in the kindergarten and more play enter into the first years of school? Would the last year of the kindergarten be strengthened by the pursuit of real and permanent constructions in place of some of those with a symbolic value only? Would the first year of school be as fruitful if the play of imagination in dramatic action took a prominent place? Can this play be made to serve the understanding of subjects of fundamental worth?

REFERENCES: Dewey, *The School and Society*; Sully, "The Little Artist," in *Studies in Childhood*.

*Play, games, construction.*—In what matters are children inclined to routine, form, and conservatism? On what are they radical, individual, and logical? What healthful use can be made of the first-named tendency? What dangers attend it when used by kindergartners? What dangers are incurred by overstrain of the truly logical powers of children? Have you seen children made restless and argumentative by it?

REFERENCES: Earl Barnes, "The Child as a Social Factor," in *Transactions of the International Congress of Education*, 1893; Sully, "The Dawn of Reason," in *Studies of Childhood*; Baldwin, chapters on "Play" and "Art" in *Interpretations*.

*Group plays.*—Can the right degree of initiative, freedom, and genuineness be secured by plays and games in groups of from thirty to sixty children? What are the typical motives in games of three-year-old children? Of five- and six-year-old children? When does the power of organization begin to appear? How large a group will cohere in play without an adult leader at the age of six? In what is an adult leader most needed—in gathering subject-matter for use in the play, or in directing its expression in the form of the play?

Where does the element of competition naturally enter games?

REFERENCES: Johnson, "Education by Plays and Games," *Pedagogical Seminary*, Vol. III, No. 1; Genevra Sisson, "Children's Plays," in *Studies in Education*, edited by Earl Barnes; Croswell, "Amusements of American Children," *Pedagogical Seminary*, Vol. VI, No. 2; Gulick, "The Psychological, Pedagogical, and Religious Aspect of Children's Group Plays," *ibid.*; articles on games and plays by Caroline Frear Burke in *The Kindergarten Problem*; Froebel, chapter on "Group Plays," in *Pedagogics of the Kindergarten*; Böhme, *Deutsches Kinderlied und Kinderspiel* (Preface).

*Symbolism.*—What are the various meanings attached to this word in its educational application? What is meant by "vicarious experiences?" What was Froebel's idea of symbolic teaching in the *Mother Play Book*? Does he indicate particular or typical experiences? Does symbolic teaching

imply the understanding of a law without many accumulated experiences in that law, by fulfilment and by opposition? Why did Froebel select certain forms as symbols? Are they arbitrary? Are they products (as symbols of adult or childish experience)? Does the parallelism of the use of symbols by primitive man and that by the child hold? Is development ever arrested in kindergartens by holding to a too limited material because of its symbolism when power demands more material and greater variety to work with?

REFERENCES: Froebel, the plays of "Grass Mowing," "The Weather-Vane," "The Bird Nest," "The Five Knights," in *The Mother Play Book*; extracts from the *Pedagogics*; Sully, chapter on the "Age of Imagination," in *Studies in Childhood*.

Give a résumé of the psychological equipment, the interests and the powers of a three-year-old child. Notice especially the following characteristics and state the treatment that they necessitate (illustrate in games, plays, and stories): (1) fleeting nature of activities; (2) small power of resisting new stimuli from without; (3) strength of initiative instinct shown in representative plays; (4) love of repetition.

What are the chief problems involved in the organization of a curriculum for five-year-old children? Are we to face the problem of helping them to find relations between what seems unrelated, or are we to help them to differentiate the parts of their social world, that they may reunite them with a sense of their efficiency and value to the whole?

Discuss the various bases of kindergarten programs: (1) Mother-plays of Froebel as a basis; (2) play founded on change of season; (3) completion of a circuit of social experiences in succession, as, from family, to trades, to state, etc.; (4) common fundamental social experiences of the children.

## COURSE OF STUDY IN PRIMARY GRADES.

MRS. THORNE-THOMSEN.

### FIRST HALF OF THE FIRST TERM.

#### TOPICS FOR DISCUSSION.

I. Community life as a basis for a course of study: (1) What community life in the school should be; its aim and organization. (2) Relation of good habits and moral qualities to social work. (3) Relation of the school to the larger community.

II. Selection of subject-matter: (1) Relation of knowledge to the needs of social work. (2) Relation of social work and activities to (a) recitation, (b) modes of expression, (c) reading and writing; physical training.

III. Discussion of some phases of social activities which may be carried on in the school: (1) Care of school building and grounds. (2) Cooking. (3) Care of domestic animals. (4) Gardening. (5) Weaving and sewing. (6) Making of pottery.

IV. History: (1) Study of human life and social activities of the environment. (2) Study of primitive man. (3) Centers of interest, home, food, and clothing. (4) Courses of study in history for the primary grades.

V. Literature: (1) The place of stories in child-life. (2) Criterion for the selection of stories. (3) Ideals and ideas of the fairy-story. (4) Misconceptions. (5) Methods of presentation. (6) Suggestive list of stories and books for children.

VI. Typical stories: (1) Stories of industry, occupations, and invention. (2) Stories of primitive people. (3) Stories of children of today. (4) Stories of children of other lands and long ago. (5) Stories for particular occasions. (6) Fairy-stories and myths.

VII. Nature study: (1) The child's natural environment. (2) Experiments growing out of children's questions concerning this environment. (3) Field trips. (4) Science work relating to the social activities of the school. (5) Outlines of science work for the primary grades discussed.

VIII. Reading: (1) The comparative value of reading and social occupations to a child of six years of age. (2) When should reading be taught? (3) Past and present "methods" of teaching reading. (4) Phonics. (5) Bad habits of reading, and how they may be corrected. (6) Silent and oral reading compared; the special function of each. (7) Relation of reading to all the work of the school.

IX. Writing: (1) Purpose of writing; teacher's standpoint, child's standpoint. (2) Past and present methods discussed. (3) How skill is acquired. (4) Spelling, oral and written; the value and place of each. (5) Relation of writing to reading. (6) Relation of writing to all the work of the school.

X. Number: (1) Reasons for teaching arithmetic. (2) How much number work is required to carry on the activities of the home and school effectively? (3) Relation of arithmetic to all other lines of work. (4) The teaching of the fundamental operations, fractions, and decimals. (5) The place of drill.

XI. Expression: (1) Dramatic representation, its special function. (2) Modeling, painting, and drawing. The value of each. (3) The relation of all modes of expression to the subjects of study.

XII. Discussion of a course of study for the first grade.

XIII. Discussion of a course of study for the second grade.

XIV. Discussion of a course of study for the third grade.

XV. Discussion of a course of study for the fourth grade.

#### ROUND TABLES ON ELEMENTARY-SCHOOL WORK.

(Second half of the first term.)

July 6. "Social Activities in the Elementary School." Mrs. Thomsen.

July 7. "Stories for Primary Children." Mrs. Thomsen.

July 8. "Literature and Dramatic Exercises." Miss Fleming.



- July 9. "History in the Elementary School." Miss Deratt.  
 July 10. "Geography in the Elementary School." Miss Baber.  
 July 13. "Science in the Elementary School." Mr. Jackman.  
 July 14. "Excursions." Miss Wygant.  
 July 15. "Painting, Drawing, Blackboard Illustrations." Miss Covington.  
 July 16. "Reading and Writing in Primary Grades." Miss Wygant.  
 July 17. "Manual Training." Miss Langley.  
 July 20. "Textile, Clay-Work, Metal-Work." Mr. Duncan.  
 July 21. "Kindergarten." Miss Allen.  
 July 22. "Relation of Kindergarten to First Grade." Miss Payne.  
 July 23. "Morning Exercises." Miss Hall.  
 July 24. "The Curriculum." Mrs. Thomsen, Miss Hall, Miss Wygant.

## NATURAL SCIENCES.

### COURSES IN THE TEACHING OF NATURE-STUDY.

PROFESSOR JACKMAN.

#### 81A. PRINCIPLES AND METHODS IN FIELD-STUDY.

The landscape as a source of subject-matter for nature-study. Based upon the outdoor materials afforded by the season. Students are expected to provide themselves with water colors and paper for landscape sketching. Other forms of expression.

NOTE.—It is recommended that students take an art course in painting and drawing in connection with this course.

Intended for students who enter for three weeks only. Given the first three weeks and repeated the second three weeks. Not for credit.

#### *Outline of Course. Considerations as to Subject-Matter.*

1. The landscape in its broader sense and as a whole; as an organism. Dominant centers of organization. Minor centers. As a moving picture: hourly, daily, seasonal, and cosmic changes. Evidences of change.
2. Interpretation of the landscape through color: the significance of color and color changes. Contrasts in the various seasons and their significance. Relations of color to light.
3. Surface characteristics: elevations, depressions, slopes, drainage.
4. Land and water relations: lakes, ponds, streams, marshes, moist and dry areas.
5. Plant life: its most striking divisions. Centers of organization. Timber and meadow lands. Water margins—valleys and shores. Marshes. Water areas. Dry areas. Border lines.

6. Animal life: its largest divisions. Centers of organization. Adaptations of structure. Relations to plants.
7. Distribution of heat and light on the landscape: daily, monthly, and seasonal. Surface and soil temperature. Use of the skiameter.
8. Distribution of moisture: rainfall; relative humidity; moisture in soils. Use of rain gauge and psychrometer.
9. Human life in the landscape: farms, gardens, sites for dwellings and factories; roads and streets. Development of industries and commerce. Political relations.

NOTE.—For an outline of the pedagogical questions to be considered, see after Course 82 A, below.

82 A. PRINCIPLES AND METHODS OF LABORATORY WORK ON A  
SELECTED AREA.

A study in experimentation as a means of solving special problems relating to particular landscape features and phenomena. Students are expected to provide themselves with water colors and paper for landscape sketching. It is recommended that an art course in painting be taken with this course. Summer quarter, first term; M.

*Outline of Course. Considerations as to Subject-Matter.*

1. Measurement and topographic survey of the area selected for study. Mapping and plotting.
2. Use of skiameter in the determination of light and heat intensity on the area—daily, seasonal. Plotting of results. Use of sunshine recorder.
3. Temperature of air, soil, and water. Plotting and comparison of results observed. Effects of slope, moisture, nature of soil, etc., on temperature.
4. Character of soil. Mechanical constituents. Capillarity. Capacity for water. Actual amount of water at different depths. Loss by evaporation. Organic matter.
5. Adaptation of animals and plants to different parts of the area. Roots, stems, leaves, flowers, fruits. Succession of plants during the season. Succession of plants in the history of the area. A study of the plant constituents. Calculation of amount of matter produced by growth in a season. Distribution and succession of animal forms. Use of illustrative museum material.
6. Rainfall on the area, seasonal and annual. Comparison with the annual average. Study of weather maps. Various forms of records for meteorological observation. Use of rain gauge and psychrometer. The use of the anemometer, barometer, and barograph.
7. Economic aspects of the area. Fitness for dwellings and factories; for gardens, for roads, etc. Relations of the cultivated plants to those growing wild.

PEDAGOGICAL CONSIDERATIONS RELATING TO THE PRESENTATION AND ADAPTATION OF SUBJECT-MATTER TO THE PUPILS OF VARIOUS GRADES.

(To be taken up in connection with both Courses 81 A and 82 A.)

1. Presentation of subject-matter: *genesis of the image*. The landscape as a basis for study of all science. Adaptation of its study to children. Relation of nature-study to science.
2. Expression: *definition of the image*. Color work as a means of expression; its fitness for children. Relation of painting and drawing to seeing. Clay-modeling in form-study. Function and form of written work.
3. Elementary mathematics: place of quantitative results in nature-study; adaptation of mathematical work (a) to the requirements of the subject; (b) to the capabilities of the pupils.
4. Reading as an aid in nature-study; its relation to observation.
5. Relations of nature-study to history and literature. Types of literature inspired by modern scientific ideas.
6. Place of nature-study in the curriculum: its relations to the social and industrial life of the pupils.
7. The moral bearings of nature-study. As a direct and indirect means in the development of character.

## GEOGRAPHY.

ASSOCIATE PROFESSOR BABER.

DURING the first term of the summer quarter two courses in geography will be given. Course 106 is intended for teachers in the elementary schools. Course 107 is designed especially for teachers of geography in the elementary, secondary, and normal schools, and will be open to all who have a knowledge of physiography.

During the second term of the summer quarter (Course 108) the work in geography will be given in the field. This course will form a basis for the teaching of geography; it will consist of a study of the physiography, life, and industries of the regions visited. The field will be (a) northern Illinois, southern Wisconsin, and the Mississippi river from Prairie du Chien to Rock Island; or (b) the St. Lawrence river from Niagara Falls to the Saguenay river.

### COURSE 106. THE STUDY AND TEACHING OF LOCAL AND CONTINENTAL GEOGRAPHY.

1. *Local geography*.—Experience is the basis of thinking; hence local geography must form a large part of geographic consideration. Within accessible distances from almost every school may be found the elements which make up the physical, life, and culture aspects of the world's landscapes. This region is especially rich in geographic types, both natural and cultural. Excursions will be made to Glencoe for the study of wave action,

and also for the study of glacial drift; to the south shore, for a study of lake action on a low coast; to Dune Park, Ind., for sand dunes; to Cary, for a study of a terminal moraine; to Stony Island, for a study of glacial grooving and striae; to Fraction Run, where a stream has cut through limestone; up the Chicago river by boat, for a view of the industrial activities. Visits will also be made to some of the leading industrial centers of Chicago.

Landscapes: Elements which compose landscapes (form and color). Type-forms: Valleys, hills, mountains, plains, lakes, rivers, seas.

1. Valleys—formed by erosion. (Study ravines in clay at south shore and Glencoe; make valleys in out-of-door laboratory.) Process of lowering and widening of valleys. Formation of cañons, terraces, flood plains, deltas. Finding of permanent streams. Influence of rivers on harbors. Relation of Chicago river and Calumet river to Chicago.

REFERENCES: Davis, *Physical Geography*; Tarr, *Physical Geography*; Gilbert, "Henry Mountains," *U. S. Geographical Survey*; Gilbert and Brigham, *Physical Geography*; Salisbury and Alden, *Chicago and its Environs*; Russell, *Rivers of North America*; Geikie, *Earth Sculpture*; Dryer, *Physical Geography*.

2. Hills and depressions—formed by wind. (Study of sand dunes and swamps at Dune Park.) Genesis of dunes and swamps. Origin of sand. Location of the dune areas of the world. Movement of dunes. Method of making dunes stationary. Value of sand dunes.

REFERENCES: Davis, *Physical Geography*; Salisbury and Alden, *Chicago and its Environs*; Marsh, "Deserts," *Man and Nature*; Gaye, "Deserts," *Great World's Farm*; Johnston, "Deserts," *Compendium of Africa*; Van Dyke, *The Desert*; Sven Hedin, *Through Asia*, Vol. I.

3. Hills, valleys, and plains—due to glaciers. Contributions of glaciers to the local geography of Chicago. (Study of work of glaciers at Cary, Glencoe, and Stony Island.) Nature of material left by glacier; effect on bed-rock; location of existing glaciers. Extent of glaciation of North America, Eurasia. Meteorological conditions favorable to the formation of glaciers. Movement and work of glaciers. Was the North American continental glacier beneficial or detrimental to the areas affected? What would have been the probable result had the glacier reached the gulf of Mexico? What would be the probable condition here had the glacial period never occurred?

REFERENCES: Salisbury, *Journal of Geography*, Vols. I and IV; Salisbury and Alden, *Chicago and its Environs*; Davis, *Physical Geography*; Scott, *Introduction to Geography*; Chamberlin, "Terminal Moraine," *Third U. S. Geographical Survey*; Russell, *Glaciers of North America*; Geikie, *Earth Sculpture*.

4. Mountains and valleys—due to orogenic movement. (Illustrate mountain folding in laboratory.) Appearances of young and old mountains: rocks, vegetation, animal life, waterfalls, lakes, snow, glaciers. Effect of mountains on climate, and on distribution and concentration of peoples. Influence of mountains on rivers.

REFERENCES: Davis, *Physical Geography*; Reclus, *History of a Mountain*; Hutchinson, *Story of the Hills*; Gilbert, *Henry Mountains*.

Lakes: Lake Michigan. (Show wave-action in laboratory.) Wearing coast (Glencoe)—formation of sea cliffs, sea caves, terraces, distribution of eroded material. Building coast—sand bars, spits, beaches. Use: to commerce; water supply; fishing industry; sand industry. Lighthouses; life-saving station. (Visit Life-Saving Station at Jackson Park.)

REFERENCES: Shaler, *Beaches and Tide Marshes*; Davis, *Physical Geography*; Tarr, *Physical Geography*; Russell, *Lakes of North America*.

II. *Continental Study*.—North America as a type continent. Location and relation to other continents on the globe; size; shape; topography; climate; life; people.

1. Western highlands: position; extent; altitude; appearance; formation of Rocky mountains, Sierra Madre mountains, Cascade mountains, Sierra Nevada mountains, Coast Range; Great Basin; Mexican plateau; Central American mountains. Characteristics of the river basins found on western slope of great mountain mass—Colorado, Columbia, Frazier, Yukon, Sacramento, San Joaquin river basins. What advantages for human occupation do the western highlands possess? Influence of this great land mass on the rest of the continent. Influences, both good and evil, of desert, or semi-desert, region of the remainder of the continent.

2. Great central plain: extent; elevation; winter and summer appearance; glaciated area; account for lakes; non-glaciated region. Characteristics of the river basins—Mississippi, Mackenzie, Hudson Bay system. Value of the great plain in the development of the continent. Would a different arrangement of lowlands and highlands improve the continent as a home for man?

3. Eastern highlands: location; extent; appearance; Canadian highlands. Appalachian system—New England mountains; Blue Ridge; Alleghany plateau; Appalachian valley; Piedmont. Brief outline of geologic formation of the Appalachian system. Account for position of the Delaware, Susquehanna, Potomac, New, and Tennessee rivers. What is the effect of the Piedmont region on the rivers that cross it? What is the value of the Appalachian highlands to the present inhabitants of the United States? In what way did the mountains aid the colonists? What influence did they exert on the Civil War? Characteristics of St. Lawrence river basin.

4. Coastal plain: extent; appearance; formation. Account for shape of coast line; coastal islands; agricultural value of the coastal plain.\* What influence did the coastal plain exert on early settlement?

5. Central America and the West Indies: topography; formation; climate; products. Value of geographic position of the West Indies. Most important islands of the Greater Antilles; of the Lesser Antilles. Influence of volcanoes and coral reefs in the West Indies. Probable influence of the isthmian canal upon Central America and the West Indies.

6. Climate of North America: prevailing winds; movement of storm centers in the United States; distribution of heat. Southern limit of the

winter isotherm of 32°. Distribution of rainfall; snowfall. What would be the effect on the climate of North America if the eastern and western highlands had been reversed in position? What would be the effect on the climate of the plain if a high range of mountains crossed the northern country from east to west? What would be the effect upon this region if the Gulf of Mexico and the Caribbean Sea were land?

7. Vegetation: Distribution of grassy areas; of forests—conifer, deciduous, tropical. Products of each.

8. Industrial areas: agricultural; mining; stock-raising; lumbering; fishing; manufacturing. Are the present industries of North America the probable future industries of their respective areas?

9. Cities: Distribution of important seaports. Account for the location. Distribution of important inland cities. Distribution of political cities. Where will the great cities of the future be located? Why?

10. Political divisions. Geographic and political relation of the other political divisions of North America to the United States.

REFERENCES: North America, general description and western highlands: Mill, *International Geography*; *Compendium of North America*; Mill, *Realm of Nature*; Shaler, *Nature and Man in America*; *idem*, *Story of Our Continent*.

Central plain: Mill, *International Geography*; Reclus, *Earth and Its Inhabitants*, Vols. I, II; Dawson, *Canadian Colonies*; Russell, *Rivers of North America*; Russell, *Lakes of North America*; Stanford's *Compendium of Geography*, Vols. I, II; Shaler, *United States*; *Story of Our Continent*; Tarr and McMurray, *North America*.

Appalachian mountains: Davis, *Physical Geography of Southern New England*, "National Geographic Monographs;" Willis, *Appalachian Mountains, Northern Section*, "National Geographic Monographs;" Hayes, *Appalachian Mountains, Southern Section*, "National Geographic Monographs;" *Compendium of North America*.

Central America: *Bulletin of Republics of America*, "Nicaragua," "Costa Rica," "San Salvador;" Brigham, *Guatemala, The Land of the Quetzal*; Bates, *Central America*; Vincent, *In and Out of Central America*.

West Indies: Hill, *Cuba, Jamaica, and Porto Rico, with Other Islands of the West Indies*; Hill, "Geology of Cuba," *Bulletin*, Vol. XVI, No. 15, Museum of Comparative Zoölogy, Cambridge; Hill, "Geology of Jamaica," *ibid.*, Vol. XXXIX; Hearn, *Two Years in the West Indies*; Paton, *Down the Islands*; "Cuba," *National Geographic Magazine*, May, 1898; "Martinique," *ibid.*, July, 1902; "Martinique," *Century*, September, 1902.

Climate: Davis, *Physical Geography*; *Elementary Meteorology*; Waldo, *Elementary Meteorology*; Archibald, *The Story of the Atmosphere*; *Compendium of North America*.

Industries: Shaler, *United States*; Marsh, *The Earth as Modified by Human Action*; Paton, *Natural Resources of the United States*; Mill, *International Geography*; McFarlane, *Commercial Geography*; Adams, *Commercial Geography*; Keltie, *Applied Geography*; Mill, *Elementary Commercial Geography*.

#### COURSE 107. THE AIM OF GEOGRAPHIC TEACHING IN THE ELEMENTARY AND SECONDARY SCHOOLS.

1. Kind of imagery: (a) dynamic, (b) static. What geographic images are necessary to an appreciation of history? Age at which the desire for casual relations is strong.

2. *Æsthetic training.* Is the æsthetic appreciation of landscape enhanced by scientific knowledge? In what aspect of the landscape are children first interested? Can a love of landscape be cultivated? Influence of the æsthetic aspect of the landscape on the distribution of people.

REFERENCES: Shaler, "Landscape as a Means of Culture," *Atlantic Monthly*, December, 1898; Shaler, *Interpretation of Nature*; Geikie, *Scenery of Scotland*; Lubbock, *Scenery of Switzerland*; Hamerton, *Landscape*.

3. Moral influence of the right study of geography.

4. Essential knowledge.

a) Experiential information.

(1) Field-work. Guide for the selection of areas for field trips. Manner of conducting excursions. Difficulties met with. Results of field-work. Excursions to industrial centers, farm, quarry, manufactories. Value of industrial excursions. Opportunities for training students on excursions not afforded in the schoolroom.<sup>1</sup>

(2) Laboratory.<sup>2</sup> Experiments to illustrate the development of land forms; with running water—formation of valleys, cañons, islands, deltas, falls, hills, mountains; by wave action—sea cliffs, sea caves, sand bars and sand spits, harbors, bays, gulfs, peninsulas; by air currents—formation of sand dunes; by lateral pressure—formation of mountains by folding, volcanoes; by evaporation and condensation—rainfall, frost, snow. Measurement of the altitude of the sun. The amplitude of sunrise and sunset. How construct a geographic laboratory out of doors; indoors.

(3) Museums. Collection and use of museum material. Circulating museum.

b) Knowledge obtained by indirect means. Geographic literature for elementary and secondary schools. Books for teachers. Geographic magazines for teachers and students.

c) Maps. Value of map-making. Use of reliefs, physical, contour, political, hachure, and relief maps. Physical wall maps: Kiepert's series, Habersch-Sydow series, Rand-McNally; Atlases: Andree, Steeler, Berghous, McMillan, Longman's *New School Atlas*; political maps: Johnson, Bacon, Rand-McNally; relief: Howells, Davis, models; globes. Which should precede—map-making or map-reading? What is the value of map-drawing to the pupil? In what grades can contour maps be used? In what grades should contour maps be made? How can a map be presented so as to serve its function as a symbol? What maps are most useful in elementary and secondary schools? Best selection of contour maps of the United States for use in the elementary and secondary schools. *United States Topographic Folios*.

<sup>1</sup> Excursions will be made to typical geographic areas and industrial centers.

<sup>2</sup> The term "laboratory" is here used when referring to experiments which are performed in order to discover some natural law.

d) Pictures. Photographs colored and uncolored; paintings; drawings; slides. Selection of type pictures of earth forms; industries; homes; people. Places for obtaining pictures.

5. Expression. Sand-modeling, chalk-modeling, painting and drawing. Relation of expression to observation, to memory. Value of landscape drawing in black and white; in colors. Creative work in geographic drawing. Skill in graphic expression necessitated for teaching geography.

6. The basis for the selection of a curriculum for the elementary and secondary schools: Culture; utility. At what age should the study of geography begin? When end? Why? When are children naturally interested in industrial geography; in political geography; in physical geography; in biogeography; in ethnogeography? What phases of geography, if any, should continue through the elementary and the secondary schools? How much of the world's geography should be covered in the teaching of physiography in the high school? What relation should be maintained between history and geography in the elementary and secondary schools? What influence should the world's current events have upon the selection of subjects of study? What influence should local changes—meteorologic, physiographic, and cultural—have upon the daily program? How can geography be made a study of principles rather than a study of facts? Laws which govern topographic forms; climate; distribution of vegetation and animals; distribution of cities; products; commerce. When should a child be made conscious of the principles underlying geographic facts?

---

## MATHEMATICS.

PROFESSOR MYERS.

WHATEVER may be said concerning the pedagogy in general of the recent past, the most obvious, if not the most flagrant, fault of recent mathematical pedagogy is its fragmentary character. It fails signally to recognize the important pedagogical discovery of a few years since, that the whole boy comes to school. Time forbids entering here upon the philosophy of the origin of this patent fault, though reasons for its prevalence among us would not be far to seek. But in this age of pedagogical stir phenomena are being thrown to the surface of the educational waters too rapidly to be accounted for; we are able only to take account of them, and to explain what we mean when we think we see one. For the present, therefore, we shall be content with a few words of explanation of what we mean by the statement that the most telling weakness of recent mathematical pedagogy is its fragmentariness.

With the general enrichment and consequent disturbance of the elementary and secondary curricula through the introduction of the modern subjects, mathematics has for a long time been playing at "Pussy wants a corner." She is still passing nervously from neighbor to neighbor in the general scram-



ble for a "corner." Here is an educational writer who would crowd her into the corner with nature-study, or even with elementary meteorology or soil study; another says she must make shift with geography; another with manual training; another with the industries of the home; another with those of the farm or workshop; another with business; another with physics; and so on *ad libitum*. Each prepares a text showing that he has found the true place of mathematics. From the standpoint of the content of mathematics there are those who tell us that mathematics is counting; others that it is measuring; and others still that it is the science of establishing a correspondence, one by one, of things or ideas about things. Finally, there are still others who believe it is all of these things and more too. The writer believes, with others, that it is the science which has to do with the entire quantitative side of the life of the individual.

The mathematical work of all departments of the School of Education is based upon this idea, and the course in the pedagogy of elementary mathematics which follows is intended to give any persons who desire an opportunity to see with what success or lack of success this idea is followed out in the Elementary School of the School of Education.

#### 134. PEDAGOGY OF ELEMENTARY MATHEMATICS.

The following course in elementary mathematics will be offered during the summer quarter:

*First three weeks.*—This will comprise a general presentation of the work in mathematics throughout the Elementary School. Such an exposition as time permits of the principles controlling the work and of the relations of mathematics to the other subjects of the elementary curriculum will be given.

*Second three weeks.*—The second three weeks will be given to a more detailed study of the special mathematical topics and methods of presentation for the primary grades. The study will descend into particulars as to problems and teaching plans, to whatever extent the brief time permits.

*Third three weeks.*—The matter and method of treating mathematics in the grammar school will receive chief emphasis during this term. Laboratory and field-work in mathematics suitable for the grammar grades will be given considerable attention.

*Fourth three weeks.*—This period of time will be given to the consideration of the matter and manner of mathematical teaching required to make the transition from the elementary to the secondary school easy and natural to the pupil. It will concern itself with the closing work of the grammar-school and the beginning work in high-school mathematics.

#### 135. ELEMENTS OF SURVEYING.

This course aims at giving the student a working familiarity with the customary instruments of plane surveying, some degree of skill in the use of

these instruments, together with a knowledge of the typical problems of the surveyor and civil engineer and the ability to solve these problems. The work will consist of field-work, the taking of field notes in good form, the reduction and discussion of these notes, trigonometric computations by logarithms with and without the slide rule, and the drawing of topographic and profile maps. The pedagogic order will be from the field tract, or course, to the concise description by word and sketch of the salient features of the proposed problems, through the geometrical representation of the problem to its solution, and, finally, the return to the field by a careful interpretation of the meaning of the results. It is believed that one of the values of the course will be to show secondary mathematical teachers many ways in which, with inexpensive apparatus, the elements of surveying may be used in their classes.

Among the problems to be solved will be included the following :

1. Study of the length of the pace under a variety of conditions influencing it.
2. Measurement of distances, free and obstructed, by pacing, by chaining, and by the steel tape.
3. Measurement of angles by chain, by tape, by compass, and by transit.
4. Problems with the compass and transit.
5. Determination of areas from measured data by the methods of engineering practice.
6. Differential and profile leveling.
7. Contour leveling.
8. Determination of heights.
9. Staking out buildings.
10. Surveys with plane table and stadia.
11. Surveys with tranist and stadia.
12. Areas by latitudes and departures.
13. Triangulation.

The prerequisites for admission to this course are reduced to a minimum. Any applicant who has completed high-school algebra and geometry (including solid geometry), who can show ability to use the six trigonometric ratios, and can compute by logarithms will be admitted to the work of the first term. For admission to the work of the second term of the quarter a knowledge of plane trigonometry, or the work of the first term, will be required. Minor credit will be given for the satisfactory completion of the work of either term, and major credit for both.

#### 136. HISTORY OF THE TEACHING OF ELEMENTARY AND SECONDARY MATHEMATICS.

This course will be given in the summer quarter, in case there seems to be a sufficient demand for it. If, however, it is given, course No. 135 will not be given.

It will have to do with the historical order of ideas that have dominated the teaching of arithmetic, geometry, algebra, and trigonometry in the past. It will undertake to point out the influences which prepared for and shaped the reforms of the past as to method and matter in this teaching, with the view to rendering the modern teacher more intelligent as to what promises improvement today and to economizing his efforts to improve his own teaching. A knowledge of the traditions and influences which have shaped the past teaching of one special subject renders one capable both of valuing these influences at their true worth and of breaking with them when they become an obstruction to his progress. His respect for them is not the superstitious awe of ignorance, but is the intelligent respect for the consensus of the accumulated opinions of the past, which may or may not have an important bearing on present-day pedagogical movements. The practice of any teacher is both steadied and liberated by some knowledge of how his special subject came into its present state and relation in the school. Attention will be focused mainly upon the bearing of the history of mathematics upon current teaching.

The course will be given by text-book, lectures, and library references. It will run through the quarter and will count for major credit. Trigonometry will be required for admission to it.

---

## SPEECH, ORAL READING, AND DRAMATIC ART.

ASSOCIATE PROFESSOR FLEMING.

### COURSE I. GENERAL COURSE FOR TEACHERS IN ELEMENTARY AND SECONDARY SCHOOLS. OPEN TO ALL TEACHERS.

Expression is a social function. The school gives ideal conditions for acquiring power in expression, and it should be organized to give the child ample opportunity to use this power for the good of the whole community.

I. *Expression*.—Expression is the natural result of all thinking, and, when controlled by the will, becomes a means of image-growth. It is habit-forming. It is character-making. Expression has three functions: first, its physical function, the training and growth of the body; second, its intellectual function, reaction upon thought; third, its moral function, the development of motive and the training of the emotions. These are in reality one in action. Any attempt to separate them is fatal to all.

Expression is a necessity of growth, a revelation of power, of one's largest self and highest possibilities. Definite, clear thinking produces definite, clear expression. Vague, indefinite thinking produces vague, indefinite expression. It is uncertainty that paralyzes.

Each mode of expression has its own particular reactive function. Form, necessary to any clear imaging, is realized by the plastic arts, a closer

analysis of form by drawing, of color by painting, of complete synthesis by writing. Dramatic art focuses the experiences gained in all the other arts, and combines them into one supreme act. The product of each mode of expression reinforces all the others. Children should get a wide outlook—taste expression in every form—no specialization.

II. *Reading*.—Reading is thinking. It presupposes a certain experience on a subject. It is an organic part of the study of any subject. Attitude of the child toward books. Preparation and motive for their use. Reading sometimes a dissipation. Waste of time and energy in learning to read. Where should the problem of learning to read be solved? The habit of thinking of the forms of expression. Reading to the children.

III. *Oral reading*.—Only one mode of expression. What kind of images demand oral expression? Compare oral reading and speech as modes of expression. Function of each. Relation to other modes. Agents of expression. When should a child express the thought acquired by reading in his own words? When should he read orally? Motives governing the desire to read aloud. Ideal conditions. Value of story-telling by children as a help to oral reading; of discussions on subjects of interest in the social life of the school; of drill upon literature committed to memory. Is there too much oral reading in the school?

IV. *Literature*.—Drill means training in thinking. Dramatic literature should be chosen for drill. It should appeal to the higher emotions—love, courage, patriotism; to the sense of beauty and rhythm. It should have the characteristics of a good play. The images should crowd each other. The thought and emotion should be within the child's grasp, or relatively so. It should be a great thing that appeals to broad, universal experience, that keeps the individual moving out from himself, that gives insight into the unity and interdependence of men, and into the joy of service. It should call into strong, broad action all the agents of expression. Technique is gained under the inspiration of an aroused imagination. Analysis and interpretation of selections of literature adapted to children in different grades. Lists of selections that may be used with history, geography, and science in the different grades. Principles upon which a story or selection may be cut or adapted for oral reading. How to incite children to study a selection for oral reading. Value of silent, independent study of text. Study should be continued until some tangible result in expression is possible. Over-analysis. Criticism. Self-consciousness. Affectation. Genuine expression. Genuine quality, good or bad, is unconscious of itself. Study of individual children. Children as judges of literature.

We shall begin the study of expression by expressing. As a preparation for this work, the teacher would do well to select a scene from a drama or poem, study it, live with it, and come to the class ready to express what it means to her.

## SUGGESTIVE LIST OF SELECTIONS FOR ORAL READING IN THE GRADES.

Orations: "Webster's Reply to Hayne;" "Lincoln's Speech at Gettysburg;" Grady, "The New South."

Poems: Coolidge, "How the Leaves Come Down;" Stevenson, "The Wind," "Windy Nights;" Howitt, "The Wind in a Frolic;" Douglass, "The Motherless Turkeys," "Chip and Peep," "Bobby's Valentine;" Browning, "The Pied Piper," "Herve Riel," "How They Brought the Good News from Ghent to Aix;" Longfellow, "Paul Revere's Ride," "The Launching of the Ship;" Lanier, "Song of the Chattahoochee," "Owl Against Robin;" Read, "Sheridan's Ride;" Bret Harte, "John Burns of Gettysburg;" Thompson, "The High Tide at Gettysburg;" Whitman, "O Captain, My Captain;" Scott, "The Chase," "Lochinvar," "Earl Douglas and Marmion;" Lowell, "The Vision of Sir Launfal."

Prose selections: Lew Wallace, "Racing with a Storm," *Prince of India*; Victor Hugo, "The Gamin," *Les Misérables*.

V. *Technique*.—All that goes to the opening up of the channels of expression; the physical side of expression; *how* to do things. The mastery of technique—by expression, by imitation.

1. *Gesture*: This mode of expression involves the whole body, and demands health, physical freedom, and responsiveness. The body is an instrument, and physical health and freedom determine, in a large measure, the possibilities of expression. Delsarte says: "Strength at the center, freedom at the surface, is the true condition of being." Special exercises for carriage and bearing, breathing, resting, for freedom and control, are therefore a part of the preparation for oral expression.

Gesture a universal language, modified by nationality, temperament, and habits of life. Function of gymnastics as a preparation for expression. Gymnastics which have the forms of expression. Movements which express fatigue, physical weakness, or abnormal nervousness; movements which are the spontaneous expression of thought and emotion. Bearings, attitudes, inflections. Poise: relation to health, to expression; the greater the activity, the greater need of poise; abnormal nervousness not intellectual intensity; poise means calmness in activity. Sitting, standing, walking. Good positions in seat-work and recitations. Exercises, plays, and games for making good carriage of body habitual. Rhythmic movements to music. Energy. Relation to health and expression. Exercises for the control and direction of energy. Pantomime, the expression of thought and feeling by bodily movements.

2. *Voice*: Power and significance of the voice in spoken language. Voice quality and intonations the expression of character, of emotional life, and of physical conditions. Voice in speech and song. Comparative ranges, extension of tone, and speech melody, and influence of the inflections of the speaking voice on dramatic singing. Training the ear to distinguish voice quality. Management of breath. Force, pitch, quality, inflection, accent, emphasis, pause, rhythm, flexibility, responsiveness. Drill upon exercises.

Drill on literature for the unconscious training of the voice. Study of children's voices; care and management of children's voices.

3. Speech: Is there a standard English? How determined? Training the ear to recognize speech qualities, to discriminate the elements—vowels, glides, and consonants. Bell's vowel and consonant tables. Training the speech organs. Formation of vowels; articulation of consonants. Causes of speech defects. Diagnosis and treatment of speech defects.

VI. *Exercises*.—History and signification of the great festivals common to the race—Thanksgiving, Christmas, Easter. National festivals and holidays—Washington's and Lincoln's birthdays, Memorial Day. Educational value of morning exercises. All exercises should grow out of the work of the school, and should be the culmination of study in some subjects. Use of art, music, and literature in these exercises. Basis for arrangement of programs. Suggested programs.

COURSE II. OPEN TO ALL WHO HAVE HAD COURSE I OR ITS EQUIVALENT.

*Dramatic work in the elementary and secondary schools*.—The dramatic instinct. Its manifestations in children. What part does it play in the child's development? Signification of children's plays, imitations, impersonations, and love for dramatic stories. Organization of these manifestations.

Relation to other modes of expression—pictorial art, music—a vital one. How shall it be utilized in the school? Into what should it flower? The technique of the drama. Value to the teacher of the knowledge of the history of dramatic art and of the construction of a drama—its essential characteristics, its relation to life, its limitations. The function of costume and scenery. Action and emotion in themselves not dramatic, except when they are part of an organized whole. Intense emotional manifestations often result from vague, indefinite images. Emotion an end in itself, mind-disintegration. Importance of definite, clear thinking. Dramatic art, including music, an outlet for the great wealth of human emotion. It brings the whole range of emotional life under the will, and the expression is orderly, lawful, and accurate. Characters in dialogue is not necessarily drama. A drama is created and is not complete until acted.

A study of Shakespeare and the modern drama from the standpoint of construction. Practice in play-writing and stage management.

REFERENCES: Lessing, *Hamburgische*; Freytag, *Technik des Dramas*; Price, *Technique of the Drama*; Boucicault, *North American Review*, January, 1878.

Interpretation of children's stories. Basis of selection of such stories. Adaptation of stories for children of different ages. Presentation of stories to children. Relation of the story to the drama. Characteristics of a story which lends itself to dramatization. Dramatic presentation of stories. Practice in writing, telling, and dramatizing stories.

LITERATURE SUGGESTED FOR STUDY. Stories: Rhymes and jingles that appeal to children; *Mother Goose*; Grimm, *Fairy Tales*; Anderson, *Fairy Tales*; *The Sleeping Beauty*, and other stories; Baldwin, *Story of Siegfried*, *Old Stories of the East*, *Old Greek Stories*; Hall, *Four Old Greeks*; Hawthorne, *Wonderbook*, *Tanglewood Tales*; stories from the *Iliad* and *Odyssey*; Harris, *The Tar Baby*, and other folklore stories; Kipling, *Just So Stories*, *Jungle Book*; Seton-Thompson, *Animal Stories*, and other animal stories; Irving, *Rip Van Winkle*; *Stories of Chivalry*; Bible stories.

Dramas: *Julius Caesar*, *Merchant of Venice*; Rostrand, *Cyrano de Bergerac*; Phillips, *Ulysses*.

We shall follow the work in the Model School, noting the use of books, the necessities and opportunities for oral expression, and shall select and study literature which meets the demands of the children. We shall also, where possible, follow the work in history, geography, and nature study, and select and read orally any literature which will illuminate the subject, or give expression to the highest and best emotions aroused by that subject. This will make literature an organic part of the study of the subject. Rivers, mountains, plains, deserts, volcanic action, tides, oceans, floods, wind, sun, moon, shadow, birds, animals, trees, flowers, and "the ever-recurring seasons," in their relation to human life, have been the inspiration and material of some of the greatest literature.

*Value of dramatic training for the teacher.*—Imitation is a potent factor in education. Action is one of the first things imitated. The teacher's habit of sitting, standing, walking, breathing, habits of speech, quality and use of voice are imitated by the child. Gesture is truth to the child. He does not *hear* what you say, he *sees* what you do.

Effects of the teacher's voice upon the child's voice, and upon his moral nature. If the teacher's English is provincial, she cannot by any means teach the best English. If the children are to read well, the teacher must have a deep-seated, abiding belief in the educative value of this mode of expression.

If the teacher does not spontaneously use voice, hand, face, and body in expression of thought, the children will become as narrow, as restricted, as wooden, as unexpressive, and as uninteresting as she is herself. If the teacher undervalues emotion and does not see its direct direction to thought, the children will soon learn to think that emotion must be concealed. The child reflects not only what we are, but also our ideals. The teacher should be able to interpret literature, and so create an ideal of genuine expression and a public sentiment among the children which demands the best in expression. She should be able to interpret the child, in a measure, through the bearings, attitudes, and inflections of his body, through the quality of his voice and his habits of speech. Other things being equal, the teacher with dramatic power and dramatic training is a better teacher of any subject than one limited in his power and training.

## ART.

---

### DRAWING AND PAINTING.

ASSOCIATE PROFESSOR DUNCAN.

1. *Nature-study drawing and painting*.—The characteristic and the life-relations of plants and animals will be illustrated. Landscape work in water color.
2. *Drawing illustrative of literature and history*.—The beginning of industry; historic peoples; illustration of child-stories and mythology.

### MODELING.

MISS COVINGTON.

*Geographic drawing (chalk-modeling)*.—Blackboard sketching of typical surface features: plains, valleys, mountains, glaciers, cañons, shore features, etc.; pictorial representations of large sections of continents: plateaus, river basins, mountain systems; chalk-modeled relief maps on paper and blackboard; blackboard sketches typical of the zones and different continents; outdoor sketching in connection with field excursions.

*Clay-modeling*.—Correlated with the work done in nature-study, geography, and history. Forms of plant and animal life to be modeled in clay; stories in history and literature to be represented in clay.

### THEORY AND PRACTICE OF EXPRESSION IN DRAWING AND PAINTING.

MISS CUSHMAN.

1. Theory and practice of expression in drawing and painting. Discussion of pedagogy of fine arts in elementary education, with practice in related subject-matter in drawing and water colors.
2. Design as applied to constructive work. Principles and practice of design as related to manual arts.

---

## MUSIC.

---

### TEACHERS' TRAINING COURSES IN MUSIC: FOR ELEMENTARY SCHOOLS AND KINDERGARTENS.

MISS ELEANOR SMITH AND MRS. BRADLEY.

#### SONG-SINGING, WITH RELATED TECHNICAL WORK.

THESE courses are designed (1) to present a series of typical school songs having artistic value, for criticism and study; (2) to suggest methods for



teaching such songs; (3) to offer exercises which shall provide vocal drill useful to teachers in singing with children; (4) to point out the relation between rote-singing and the more intellectual phases of music-study, such as reading and writing, scale- and interval-work; (5) to provide such exercise for the teacher; (6) to present songs to be read by note, and show the relation of these songs to the foregoing; (7) to trace the evolution from unison to part-singing and give the various types of part-songs; (8) to lead the student to express his own musical thoughts.

I. *Basis for selection of songs.*—Musical quality. Poetic value of text. Content of text. Adaptation of songs to other branches of study. Range. Simplicity. Character of song and its fitness for children. The folksong in school work: limitations of the folksong. The art-form. Children's songs by Schumann, Brahms, Taubert, and Reinecke; simpler songs of classical composers. Adaptation of music of the best class to school uses. Songs of the seasons. Weather songs. Nature songs. Patriotic songs. Ballads and story songs. Labor songs.

II. *Song-singing in education.*—Its value as a means of expression. Its power to unify and to stimulate thought. Its power to stir emotion. Intellectual value of singing. Mental power necessary to read music at sight, to discriminate between intervals, and to measure units of time; to sing in tune, to recognize absolute pitch, to write songs learned by rote, to recognize harmonic combinations, and to attain independence in part-singing.

III. *How to sing songs.*—(1) Expression—the result of thought-concentration, and realization of composer's thought and mood. Distinct mental images a necessity of expression. Balance between thought, feeling, and technique. Legitimate means of expression. (2) Technique of the vocalist: Perfect intonation and time. Tone quality. Voice-training from the physical side. Voice-training from the emotional side. Breathing as a basis for good tone-production. Relation of speech to song. Pronunciation. Enunciation. Articulation. Use of clear and somber vowels in tone-placing. Dramatic declamation of text. The accent; stress; treatment of unaccented syllables. Style. Flexibility. The attack. Tone connection. The Legato. Tempo. Dynamic variation. Part-singing from the vocal side.

IV. *Intellectual aspect of song.*—The rote song. Its value in the unconscious training of voice and ear. The rote song in its simplest form as material for expression in musical symbols. Analysis of tunes as to pitch and rhythm, followed by writing of songs. The rote song and related exercises. Songs sung by note. Part songs. Round and canon. Canonic exercises derived from songs. Advantages of contrapuntal exercises over exercises purely harmonic. Harmonic part songs.

Musical forms derived from songs. The major scale and its intervals. Arpeggios of triads and chords found in the major scale. The relative minor. Melodic and harmonic forms of the minor scale. Intervals, triads, and chords

of the minor scale. Triads and chords sung first in melodic, then in harmonic, form.

V. *Composition of original melodies.*

## HISTORY.

MISS DERATT.

### QUESTIONS FOR DISCUSSION IN COURSES I AND II.

1. The bearing of certain psychological conclusions upon the study and teaching of history.

REFERENCES: James, *Talks to Teachers on Psychology; Psychology, Briefer Course*, chaps. xi, xvi, xviii, xix, xxii, xxiv; *Psychology, Advanced Course*, chaps. xiv, xvi, xvii, xviii, xxii, xxv; Titchener, *Outlines of Psychology*, chap. xi; Höffding, *Outlines of Psychology*, chaps. v, B and D, vi.

2. Considerations governing the selection of material for a course of study.

REFERENCE: Dewey, *School and Society*.

3. The possible uses to history-study of geography, local industrial and political conditions, libraries and museums, art and literature.

4. Reading, drawing, modeling, making, dramatization, and school organization as factors in the study of history.

### COURSE I. AMERICAN HISTORY FOR ELEMENTARY SCHOOLS.

First term, first half: history in the primary grades; period of discovery; colonial period.

First term, second half: colonial industries; the Mississippi valley; beginnings of western settlement.

Second term, first half: advance of mechanical invention; the northwest; the Pacific coast.

Second term, second half: industrial changes of the last half-century.

1. Review of the work done in the primary grades with reference to its value as preparation for the history presented in the upper grades.

2. Discovery and exploration of America. Difference of purpose and plan in the use of this material in the primary grades and with the older children. For an outline of the course in the primary grades see *ELEMENTARY SCHOOL TEACHER*, Vol. III, No. 6, (February, 1903), p. 352. The discovery of America considered as a part of the whole course of geographical discovery from the Viking voyages to the present polar expeditions. Centers of study: the Vikings; geographical ideas of the Middle Ages; mediæval routes of travel; the crusaders; Marco Polo; the earlier Portuguese navigators; Columbus; Vasco da Gama; Magellan; Drake; Nansen. Possibilities of related work in geography, science, mathematics, literature, English composition, art. Handwork growing out of the needs of the course: boat-

making; apparatus for simple astronomical observations; map-making; time-keeping apparatus; printing and book-making; illuminating.

REFERENCES: See ELEMENTARY SCHOOL TEACHER, Vol. III, No. 6 (February, 1903), p. 352.

3. The English colonies in America. Grades in which this work can be done to the best advantage. Geography of the Atlantic seaboard and its effects on industry. The importance of the household industries. The relation of means of transportation to the united life of the colonists, to intercourse with Europe, and to a knowledge of the interior of the continent. Centers of study: a New England farming community; New Amsterdam; a Virginia plantation. Related work in geography, science, sociology, literature, English composition. Handwork: apparatus for weaving; spinning, dyeing, knitting, weaving; candle-making; soap-making; milling. Observation of modern methods of filling the like needs. Visit textile exhibit in Field Museum, Hull House, and Art Institute.

REFERENCES: Powell, *Physiographic Regions of the United States*, "National Geographic Monographs;" Davis, *The Physical Geography of Southern New England*, *ibid.*; Mill, *International Geography*; Shaler, *Nature and Man in America*; *idem*, *The United States of America*; Weedon, *Economic and Social History of New England*; Fiske, *Old Virginia and Her Neighbors*; Bruce, *Economic History of Virginia in the Seventeenth Century*; Lodge, *A Short History of the English Colonies*; Earle, *Home Life in Colonial Days*; *idem*, *Colonial Dames and Good Wives*; *idem*, *Child Life in Colonial Days*; *idem*, *Customs and Fashions of Old New England*; *idem*, *Stage Coach and Tavern Days*; Eggleston, *Beginners of a Nation*; Page, *The Old South*; Johnson, *The Village Communities of Cape Anne and Salem*; "Johns Hopkins University Studies," First series; Eggleston, "Husbandry in Colony Times," *Century*, Vol. V, p. 431; "Commerce in the Colonies," *ibid.*, Vol. VI, p. 234; "Social Conditions in the Colonies," *ibid.*, p. 848; "The Colonists at Home," *ibid.*, Vol. VII, p. 837; "Social Life in the Colonies," *ibid.*, Vol. VIII, p. 387; Chapin, "The Westover Estate," *Harper's*, Vol. XLII, p. 801; Page, "The Old Dominion," *ibid.*, Vol. LXXXVIII, p. 4; "Colonial New England," *ibid.*, Vol. LXVI, p. 111; "Colonial Virginia and New England," *ibid.*, p. 706; "Evolution of New York," *ibid.*, Vol. LXXXVI, p. 814.

4. The French in the Mississippi valley. Reasons for the selection of this material. The beginning of commerce between America and the Old World; the effect of a commodity of great commercial value upon the settling of a new country. Centers of study: the northern fisheries; the fur-trading post; Quebec, the French capital; a Jesuit mission; exploration of the Mississippi, Marquette and Joliet; the Mississippi valley as a possible New France, La Salle; A French village in Illinois; the southern terminus of Mississippi trade, Bienville. Related work in geography, science, literature, mathematics, English composition. Handwork (chiefly illustrative): making of a frontier fort; a canoe; Indian traps; modeling in clay of scenes in the stories. Visit to the rooms of Chicago Historical Society.

REFERENCES: Thwaites, *Jesuit Relations*; Parkman, *La Salle and the Great West*; *idem*, *The Old Régime in Canada*; *idem*, *The Jesuits in North America*; Catherwood,

*Story of Tonty*; *idem*, *Heroes of the Middle West*; Winsor, *Narrative and Critical History of North America*; Shea, *Discovery and Exploration of the Mississippi Valley*; *idem*, *Charlevoix' History of New France*; Flint, *History and Geography of the Mississippi Valley*; Turner, *The Character and Influence of the Indian Trade in Wisconsin*; *A Study of a Trading Post*, "Johns Hopkins University Studies," Ninth Series; Biggar, *Early Trading Companies of New France*; Monette, *The Valley of the Mississippi*; Wallace, *The History of Illinois and Louisiana under the French Rule*; Hinsdale, *The Old Northwest*; King, *Bienville*; "A Canadian Habitant," *Harper's*, Vol. LXVII., p. 375; "Iberville and the Mississippi," *ibid.*, Vol. LXXXIX, p. 722; "History of the American Bison," *Ninth Annual Report*, Department of The Interior.

5. Western settlement. Beginnings of the English advance westward. The meeting of the French and English advance posts. Study of the Appalachians as a barrier, and the routes and means of transportation westward before the use of steam. Life in Kentucky, Tennessee, and the Northwest Territory. Effect of deficient means of transportation upon the frontier industries.

REFERENCES: Roosevelt, *Episodes from the Winning of the West*; *idem*, *The Winning of the West*; Sparks, *Expansion of the American People*, *The Wilderness Road*, "Filson Club Publications," Vol. II; *The First Exploration of Kentucky*, *ibid.*, Vol. XIII; Hulbert, *Historic Highways*, Vol. I; Hinsdale, *The Old Northwest*; Allen, *The Blue Grass Region of Kentucky*; Speed, *The Wilderness Road*; Shaler, *Kentucky, a Pioneer Commonwealth*; Allen, *History of Kentucky*; Ranck, *History of Lexington, Kentucky*; Flint, *Daniel Boone*; Roosevelt and Cabot, *Hero Tales from American History*; *Washington's Journal of His Tour to the Ohio*, "Old South Leaflets," Kaler, *On the Kentucky Frontier*; Taylor, *History of Ohio*; Howells, *Recollections of Life in Ohio*; Drake, *The Making of the Ohio Valley States*; Colonel May, *Journeys to the Ohio Country*; "Earliest Settlements in Ohio," *Harper's*, Vol. LXXI, p. 552; "Kentucky," *ibid.*, Vol. LXXVIII, p. 255; "Blue Grass Region of Kentucky," *ibid.*, Vol. LXXXII, p. 386; "Kentucky Pioneers," *ibid.*, Vol. LXXV, p. 48; "In the Footprints of the Pioneers," *ibid.*, Vol. XVIII, p. 741; "Pioneers of Kentucky," *ibid.*, Vol. XXV, p. 577; "Simon Kenton," *ibid.*, Vol. XXVIII, p. 289; "Daniel Boone," *ibid.*, p. 293, *ibid.*, Vol. XIX, p. 577; "Joe Daviess of Kentucky," *ibid.*, Vol. XXI, p. 341; "Log Cabin Life in Early Ohio," *Magazine of American History*, August, 1890, p. 101; "Cumberland Gap," *Harper's*, Vol. LXXXIII, p. 50.

6. Revolutionary period and its consequences. Relation of the history of the westward movement to that of our own locality. Restrictions of the English government upon American industries. The new government and its work of organization. The significance of the great mechanical inventions of the period. Changes effected by the Cumberland Pike and the Erie Canal. The exploration of the Northwest. The fur trade in the Oregon region. The old Santa Fé trail and the invasion of the Spanish territories. Early history of Illinois. Improvements in transportation and the changes wrought by them in the West. Types of western industries.

REFERENCES: Roosevelt, *The Winning of the West*; Perkins, *Annals of the West*; Wright, *Industrial Development of the United States*; Cutler, *Menasseh Cutler: Life*,

*Journals, and Correspondence; Menasseh Cutler's Description of Ohio*, "Old South Leaflets;" Channing and Hart, *American History Told by Contemporaries*; Hart, *Guide to American History*; Birbeck, *Letters from Illinois*; *idem*, *Notes on a Journey in America*; Michaux, *Travels to the Westward of the Alleghany Mountains*; Martineau, *Society in America*; Blanchard, *Discovery and Conquest of the Northwest*; "Chicago Historical Society Publications (Fergus Papers);" Breckenridge, *Recollections of the West*; McMaster, *History of the People of the United States*; Cones, *Lewis and Clarke's Expedition*; Barrows, *Oregon*; Irving, *Astoria*; Parkman, *The Oregon Trail*; Mowry, *Marcus Whitman and the Early Days of Oregon*; Shaler, *The United States of America*; "Locomotion, Past and Present," *Harper's*, Vol. XLVI, p. 161; Inman, *The Santa Fé Trail*; The First Overland Trip to California," *Harper's*, Vol. XXI, p. 80; "Life in California Before the Gold Discovery," *Century*, Vol. XIX, p. 613; "The First Emigrant Train to California," *ibid.*, Vol. XIX, p. 106; "Pleasures and Perils of the California Trip in '49," *ibid.*, Vol. XX, p. 911; "To California in '49," *ibid.*, p. 666; "Across the Plains in 1846," *ibid.*, p. 409; "Pioneer Days in San Francisco," *ibid.*, Vol. XXI, p. 541; "The Old National Pike," *Harper's*, Vol. LIX, p. 801; "Development of Mechanical Inventions," *ibid.*, Vol. L, p. 67.

7. Development of manufactures under the factory system and transportation by steam. Possible study of the Civil War in its social and industrial meaning rather than in its military aspects. Discussion of the relative importance of the two standpoints. Discussion of the extent to which the development of political institutions may be profitably dealt with in the elementary school, and of the best mode of approach to a consideration of political matters. The presentation of economic questions in the concrete form by picturing the society in which they were a factor.

REFERENCES: Wright, *Industrial Evolution of the United States*; Shaler, *The United States of America*; Martineau, *The Man and the Hour*; Benton, *Thirty Years' View*; Frederick Douglass, *Life and Times*, by himself; Goldwin Smith, *Wm. Lloyd Garrison*; Bishop, *History of American Manufactures*; Hale, *Kansas and Nebraska in 1854*; Wilson, *Rise and Fall of the Slave Power in America*; Smedes, *Memorials of a Southern Planter*; Wilkinson, *Story of the Cotton Plant*; Hammond, *Cotton*; Channing and Hart, *American History Told by Contemporaries*, Vol. IV; Johnson, *American Orations*; Greeley, *History of the Slavery Struggle*; Chase and Sanborn, *North and South*; Arnold, *The Tobacco Industry in Virginia Since 1860*, "Johns Hopkins University Studies," Fifteenth Series; Bentley, *The Condition of a Western Farmer as Illustrated by the Economic History of a Nebraska Township*, *ibid.*, Eleventh Series; Robinson, *Loom and Spindle*; "Slavery Time; Told by a Slave," *Harper's*, Vol. XLVI, p. 509; "My Life as a Slave," *ibid.*, Vol. LXIX, p. 730; "Story of Plantation Life," *ibid.*, Vol. LXXVIII, p. 39; "Story of a Georgia Plantation," *ibid.*, p. 887; Herndon and Weik, *Life of Lincoln*; Nicolay and Hay, *Life of Lincoln*; Irelan, *Life and Times of Lincoln*; Lamon, *Life of Lincoln*; Morse, *Life of Lincoln*; Tarbell, *Life of Lincoln*; Tarbell and Davis, *Early Life of Lincoln*; Raymond, *Life of Lincoln*; Scripps, *Life of Lincoln*; Crittenden, *Speeches of Lincoln*; Stoddard, *Table Talk of Lincoln*; Browne, *Everyday Life of Lincoln*; Coffin, *Lincoln*; N. Brooks, *Lincoln*; Thayer, *The Pioneer Boy*; Catherwood, *Spanish Peggy*; Sanborn, *Life and Letters of John Brown*.

## COURSE II. HISTORY FOR THE PRIMARY GRADES.

*First grade.*—Observation of local industries. Basis of selection of industries to be visited. Reconstruction of the observed activity by means of play, dramatic representation, making, drawing, and modeling. Stories and songs. Making and furnishing of a playhouse, involving design, modeling in clay, work in wood and cardboard, weaving, and simple needlework. Making of articles useful in school or at home. Visits to museum and study of pictures to see other methods of carrying on the same industries. Stories and their use for purposes of history study in the primary grades.

REFERENCES: Viollet-le-duc, *Homes and Habitations of Man in All Ages*; Harwood, "The Story of a Pine Board," *St. Nicholas*, Vol. XXV, p. 20; Gardner, *Homes and All about Them*; Müller, *The Training of a Craftsman*.

*Second grade.*—Observation of local industries continued. New elements which come into the work of second-grade children as compared with that of the younger children. The use of the history of primitive society for interpreting the meaning of present industries. The questioning of the necessity back of the fundamental industries. Examination of types of primitive society chosen to show how they may be made to serve this purpose. Hunter life: food, weapons, dwelling, clothing, fire. Shepherd life: domestication and care of animals, pottery, weaving, social customs. Beginnings of tillage; discovery of seed propagation. Arts and customs dependent on a fixed habitation. Handwork: dyeing, weaving, simple needlework; making of apparatus for textile work.

REFERENCES: Keller, *The Swiss Lake Dwellers*; Joly, *Man before Metals*; Figuier, *Primitive Man*; Mason, *Woman's Share in Primitive Culture*; Starr, *Some First Steps in Human Progress*; Waterloo, *The Story of Ab*; Morgan, *Houses and House Life among the American Aborigines*; idem, *The League of the Iroquois*; Smithsonian Institution, *Bureau of Ethnology, 1879-1888*; Starr, *American Indians*; Tylor, *Primitive Culture*; Fiske, *Discovery of America*; Shea, *Charlevoix' History of New France*; Shaler, *Domesticated Animals*; Sven Hedin, "With the Shepherds of the Khotan-Daria," *Through Asia*, Vol. I, p. 602; Doughty, *Arabia Deserts*; Baldwin, *Old Stories of the East*; *Old Testament Stories in Scripture Language*, "Riverside Series," No. 46; Beale, *Stories from the Old Testament*; Mumford, *Oriental Rugs*; Holt, *Oriental Rugs*; "A Suit of Clothes," *Harper's*, Vol. LXXX (1890), p. 685.

*Third grade.*—Cooking, gardening, and making of pottery. Visits to the city sources of food supply. Processes carried on in the city. Tracing of the materials used in the processes to their origin. Visit to a farm. Primitive tools and methods: plows, mills, modes of cooking, pottery. Stories of the improvement of tools. Primitive farming and beginnings of trade and city life. Stories of pioneers. Literature and art illustrative of the farming seasons; seedtime; harvest.

REFERENCES: "Agricultural Machinery," *Iconographic Encyclopedia*, Vol. VI, p. 177, Plates 1-8, 56-60; Small and Vincent, "The Family on a Farm," *An Introduction to the Study of Society*; Abbott, *Primitive Industry*; Voorhees, *First Principles of*

*Agriculture; Carpenter, Geographical Readers, North America; Chase and Clow, Stories of Industry; Butterworth, The Growth of Industrial Art; Binns, Story of the Potter.*

*Fourth grade.*—Commerce, travel, and means of transportation. Study of transportation within the city, making of boats, cars, roads, bridges. Early travel to Chicago from the East. Local history, with the evolution of local industries. Simple problems of public service; water supply, illumination, streets, bridges. Printing; how it may be carried on in the school. Visit to newspaper offices and public library. Stories of explorers.

REFERENCES: Kirkland, *History of Chicago*; Andreas, *History of Chicago*; Perkins, *Annals of the West*; Wentworth, *Early Chicago*, "Chicago Historical Society Publications (Fergus Papers);" Brown, *Present and Future Prospects of Chicago*, *ibid.*; Martineau, *Chicago in 1836*, *ibid.*; Brown, *Early History of Illinois*, *ibid.*; Patterson, *Early Society in Southern Illinois*, *ibid.*; Cleaver, *Reminiscences of Early Chicago*, *ibid.*; Fenno, *A Winter in the West*, *ibid.*; *Directory of Chicago, 1839 and 1846*, *ibid.*; Mason, *Chapters from Illinois History*; Mather, *The Making of Illinois*; Ford, *History of Illinois*; Gardiner and Struve, *History of Illinois*; Bateman and Selby, *Historical Encyclopedia of Illinois*; Cleaver, *History of Chicago*; Blanchard, *History of Illinois*; Breese, *Early History of Illinois*; Bross, *History of Chicago*; "Old Chicago," *Harper's*, Vol. LXI, p. 711; "Studies of the Great West," *ibid.*, Vol. LXXVI, p. 869; Mrs. Kinzie, *Waubun*.

For further references see ELEMENTARY SCHOOL TEACHER, Vol. III, No. 6 (February, 1903), p. 352, and Vol. III, No. 7 (March, 1903), pp. 451, 452.

## MANUAL TRAINING.

MISS LANGLEY.

THE manual-training department offers two courses in woodworking. The general course requires two hours a day of benchwork and presents the subject in outline. The special course requires four hours a day of benchwork and presents the subject in detail.

One purpose of these courses is to consider the aims of educational manual training and the best methods of carrying on the work. For the accomplishment of this purpose each member of the class is required to prepare a plan for a course in manual training appropriate for elementary and secondary grades. These plans are discussed in detail by the instructors and the class from three points of view: (a) the essentials of any manual-training plan; (b) the adaptation of a plan to children of different ages; (c) possible variations due to environment.

A second purpose is the attainment by the student of the greatest amount of skill possible in the given time. The exercises prescribed involve, therefore, the use of all the common woodworking tools, and the effort is to present such a progression of difficulties as shall keep pace with the increasing power of the worker.

Each member of the class will also be asked to make a design for each of several objects suggested by the teacher or by the class, and these designs will be criticised from the structural and the artistic point of view. Under structure emphasis is placed on strength, durability, and finish. Under artistic qualities are considered simplicity, proportion, beauty of line, and adaptation to purpose and environment.

The manner in which the work in wood may be made contributory to other school activities will be considered under two general heads: (a) the construction of articles for the decoration of the schoolroom, or for making it more comfortable; (b) the construction of apparatus for use in the grades, or of articles which shall illustrate the work of the grades.

In the choice of articles to be made the students have much latitude, the choice being limited only by the skill of the worker. The student is encouraged to freedom and originality of plan and design, but is guarded against waste of time and material by a careful preliminary discussion of his working drawing.

In all the handwork the working out of the number and drawing connected therewith will be given prominence.

Throughout the course there will be occasional talks on forestry, lumbering, and methods of sawing, seasoning, and marketing lumber. But only such portions of these subjects are treated as bear especially on the work in manual training. There will also be occasional talks on the subject of trees as treated in art and in literature.

Supplementary to class-work are various excursions, such as to mills, to factories, to the Pullman car shops, to large furniture shops, and to special exhibits of woodwork.

---

## CHILD HYGIENE.

MISS CRAWFORD.

THE following course is planned with the object of more carefully preparing the teacher for an intelligent study of the child's body from birth to maturity. The subject must especially consider the effect of environment upon a changing organism. The child, being different from the adult, will in all probability be affected differently by environment. Child hygiene is concerned with every subject of life so far as it affects health, and the questions included in the physical management of life assume great importance when so much change is taking place in an organism. The following outline is for general direction.

### I. STUDY OF THE BODY.

1. *Structure*.—(a) Bones: structure of bony framework as supporting mechanism; proportion and arrangement of parts as levers; proportion to the body for the age and weight; changes during the various periods of



growth in structure, size, and proportion of the various parts of the framework. (b) *Muscles: Properties:* (1) Irritability: effects of irritants; influences which promote normal state and action; blood-supply; fatigue; use; disuse; rest. (2) Conductivity: conduction in muscles; in nerves; rate of conduction in different kinds of muscles; effect of mechanical condition upon conduction; effect of irritants, of temperature, of other influences. (3) Contractility; properties of muscle during rest and action; elasticity of muscle; influences which effect contraction; liberation of energy.

2. *Metabolism.*—Food-stuffs and changes through processes of metabolism; determination of total metabolism; nutritive importance of the several forms of food; conditions influencing body metabolism; potential energy of food; balance of nutrition. Animal heat: temperature of body; sources and expenditure of heat; heat-producing mechanism.

3. *Locomotor mechanism.*—Union of the various parts of the body for movement; action of the muscles upon the bones; effect of gravity upon the body; positions of the body; forms of locomotion used by man; measurement of the forces required for locomotion of the various forms.

4. *Growth.*—Periods and rate of growth; studies of growth records; factors of variation in growth; rhythms of growth; relation of size to precocity and dulness; accelerated growth; growth by parts; growth and resistance to disease; growth and acquirement of skill; normal types; physical defects connected with growth periods.

5. *Special organs.*—Condition of senses at different ages.

## II. HYGIENE—SCHOOL.

1. *School building.*—Exterior: consideration for site, construction material, condition and location of grounds; kinds of soil permissible; drainage; playgrounds. Interior: walls; basements, wall surfaces and coverings, roofs, stairways, wardrobes, windows, lockers.

2. *Furniture.*—Desks and seats: measurements for seats and desks, adjustment of seat to individual; blackboards; amount and kind of other furniture; books.

3. *Air.*—Condition of outside air; sources of foul air; air-tests; kinds in use; dust; bacteria; moisture.

4. *Ventilation and heating.*—Amount of air required per individual; amount of floor-space; temperature of air; methods of ventilating; effects of the various methods where used.

5. *Lighting.*—Amount of light required; window-space required per individual; direction of light; artificial lighting; estimates for light; standard of measurements; position of windows; color of light; color of walls, boards, curtains, etc.

6. *Cleanliness.*—School baths; cleanliness of floors, walls, and furniture; personal cleanliness as problem in ventilation; wardrobes, lockers; arrangement of wraps; lavatories; drains.

7. *School diseases*.— Laws regarding infectious diseases; symptoms and duration of the various diseases; danger of infection; time of removal from school. Chronic diseases. Nervous diseases.

8. *School accidents*.— Treatment of accidents.

### III. HYGIENE—PERSONAL.

A consideration of the subjects of personal hygiene so far as a knowledge of the care of the child assists the teacher in directing the work of the child to better advantage.

---

## HOUSEHOLD ECONOMICS.

MISS ZABRISKIE.

1. Theory and practice of household economics, with special reference to the grammar and earlier high-school grades. Lectures, assigned readings, and two-hour laboratory periods.

2. The use of cooking occupations in the grades. Practical work with necessary explanations, one hour per day.

---

## THE MODEL SCHOOL.

THE model school will consist of the kindergarten, first, fifth, and seventh grades. It opens July 6 and continues three weeks, with a daily two-hour session, closing July 24.

The aim of the work is to make the model school representative of the regular work done in the grades during the year. The shortened session makes it impossible to represent all the subjects taught in each grade, and for that reason representative subjects have been distributed through the three grades.

*First grade*.— Mrs. Thomsen in charge; science, Miss Wygant; cooking, Mrs. Thomsen; stories, Mrs. Thomsen; French, Miss Ashleman; manual training, Miss Langley. Excursions: Farm, Lake Forest; South Shore; parks in the vicinity.

*Fifth grade*.— Miss Hall in charge; history, Miss Hall; geography, Mrs. Thomsen; French, Miss Ashleman; literature, Miss Hall; manual training, Miss Langley. Excursions: Trip on the Chicago river; South Chicago; South Water street; Illinois Central freight depot; McCormick Reaper Works; Stock Yards; Purington.

*Seventh grade*.— Miss Wygant in charge; science, Miss Wygant; number, Miss Wygant; literature, Miss Hall; clay, Miss Covington. Excursions: Swamp at Seventy-second street and Wentworth avenue; South Shore; sand dunes; Newberry Library.

## PROGRAM OF THE KINDERGARTEN CHILDREN.

MISS ALLEN.

## BIRD HAUNTS AND HABITS.

As a preparation for the observation of bird-life with the children to whom kindergarten comes as a strange and new experience we shall consider for the first few days the homes that people plan to live in themselves as well as those they plan for the domestic animals, viz., the dog, cow, horse, squirrel, rabbit, and chickens, whichever are most familiar. With our large blocks we may illustrate satisfactorily the adjustment of construction to needs. In drawing upon the experiences of the children, which they may recall, of the different kinds of homes they have seen, we shall naturally speak of the homes of birds and the many places in which these little homes are found. The position of the school offers such facilities for field-work that we shall spend at least one morning a week out of doors, and as much more time as the work demands. We shall go to the Wooded Island in Jackson Park and to South Park for our observations.

Beginning with the bird that is most common and best known to the children, viz., the English sparrow, we shall try to find out the following things about him, as well as all the other birds we shall look up: How and where does the bird live? How do we know him? Has he a song that will help us to know him? What helps us to recognize any bird (color, form, song, and flight)? What is the food of this bird? Of what is his nest made? Its shape? Use? How many eggs does the mother-bird lay? Their color? Size?

*Materials used.*—Colored pictures of birds and their haunts in woods, hedges, meadows, etc.; stuffed birds with real nests and eggs; blocks—building homes of people and animals, bird-boxes, corners of houses for birds to build their nests; wood for making bird-boxes in the clay room—paints; clay; raffia for making nests.

*Stories and poems.*—Cooke, "How the Robin's Breast Became Red," "The Red-Headed Woodpecker," *Nature Myths*; Cary, "Story of a Black-Bird;" "The Broken Wing," a Norwegian story; anon., "Building the Nest;" Alice Riley, "The Bird's Nest;" "The Mole's Court," translation by Gudrun Thomsen from the Norwegian.

*Songs.*—"Little Birdie," "The Blue-Bird," "The First Flying Lesson," "The Robin's Song," from Neidlinger's *Small Songs for Small Singers*; "All the Birds Have Come Again," "In a Hedge," from Smith's *Songs*, Part II; "Flying Song," from Hill's *Songs*.

*Games.*—"Hiding the Pebble;" "Jacob and Rachel;" "Circle Catcher;" "Four Circles;" games of flying and hopping birds; building a nest.

*Marching and rhythm.*—Plain marching and skipping; flying; sun-beams; raindrops and cloud skirts; marching in twos, threes, and fours.

*Number.*—Incidentally, groups of 2, 3, 4, and 5, as found in number of eggs in a nest; groups of 2, 3, and 4 in marching, and in choosing partners in skipping.

#### FIRST GRADE.

*Cooking and related subjects.* (Mrs. Thorne-Thomsen).—Baking of apples and potatoes in ovens out of doors. Pop corn, ice cream, and lemonade.

*History:* The farm. Visit to a farm. Work of farmer to produce our common foods. Domestic animals. The children will have the care of hens and chickens, and thus have an opportunity to watch their habits closely.

*Reading:* Recipes, simple directions for work.

*Writing:* Words and sentences to be kept as records.

*Number:* Measurements needed in cooking. Quart and pint; wholes, halves, and fourths.

*Literature* (Mrs. Thomsen).—Stories will be told and read to the children. The first grade will meet with the fifth and entertain them by telling and dramatizing stories.

*Nature study* (Miss Wygant).—All children are more or less interested in things out of doors—birds, butterflies, toads, frogs, flowers, trees, stones, etc. Is there any relationship between these isolated things which can be made manifest to the children in such a way that those things which now catch their fancy may grow more intense and their range of interests be widened? A belief in this possibility determines the choice of work in science, in the first grade of the summer school.

John Burroughs says that the danger of modern nature books lies in making "too much of what we see, of putting in too much sentiment," but he states very clearly that "there can be no doubt that animals experience many of our emotions." This danger has fed upon the desire for kinship with animals which is so strong in children. The home-making and food-getting of animals parallel very closely human activities, and this therefore will be the line of departure from the immediate object in which the child's interest centers.

The work will begin with the preparation of an aquarium, ant-tray, earthworm case, butterfly cage, individual insect boxes, and bird-houses. These homes will be kept in the room, and given daily care and observation. In each case the making of the house will be preceded by a study of the needs of the animals which are to live in it. The study will be made by watching the animal in its natural habitat, and by reading on the subject; then the houses will be prepared, and again reading will be required to determine what food is necessary.

The aquarium, ant-tray, and earthworm case will be made outside of the class so that the children will need only to fill these. A trip will be taken

to the Seventy-second street swamp to get material for the aquarium; the others can be supplied from the garden. The insect boxes will be adapted from ready-made wooden boxes of a size convenient to stand on each child's desk.

The bird-houses will be planned and made of wood by the children. Stuffed specimens of the birds common to the neighborhood will be placed in the room, and the children made familiar with them by means of painting, stories, and songs. Trips will be taken to the Wooded Island to watch the birds there. The plan is to place these bird-houses on the new school grounds in order to be ready for the birds another season, when it is hoped some may be induced to nest here instead of in Jackson Park. Each child will choose the kind of bird which he particularly wishes to have nest in the yard. Based upon this choice groups will be formed, each group to build one bird-house. The houses will be eight inches high, with a six-inch floor. Two inches is a good diameter for the opening of most bird-houses, but for the chickadee, wren, or vireo a one-inch hole is sufficient, and this will prevent these houses, at least, from being monopolized by the English sparrow. As the first step in planning the children will use the kindergarten gifts to represent the houses as they wish them to appear when finished. Then they will cut out of thin cardboard, according to the above dimensions, the sides, floor, and roof of the house. When these sides are apportioned in this manner, each child can make his part seeing its relation to the whole. The making of the house requires measuring, use of the half- and quarter-inch, making of a square corner, and finding the center of a rectangle. The question of how to finish the houses in regard to paint will give rise to an examination of the protective coloring of animals and their homes. To paint them a bright color would prevent their being used by the birds. In this connection some excellent specimens of butterflies, insects, and nests from the museum will be used to illustrate this law of life. The children will go out of doors to find instances of this same adaptation in the world about them.

Reading, writing, and arithmetic will be taught in connection with the other subjects wherever they assist in imaging or serve their real purpose of communication. Possible topics for reading are the homes and food of animals, directions for work, descriptions of birds or nests as a means of identifying one at hand, riddles used in games, etc. Writing will be needed to make memorandums of what animals are put into the aquarium and insect boxes, directions for their care to be sent with the cases to the children to whom the care of the animals will fall at the end of summer school, records of what we have observed, etc. It seems economy to fix the new words used in a reading or writing lesson more definitely than can be done by the mere repetition in the text, therefore a dictionary will be kept for this purpose by the children. Phonics will be used in this work and in games

as a means of training in speech. All reading lessons will be in printed form and may be obtained at the school if desired.

*Songs for first grade.*—Reinecke, "Apple Tree;" Wilhelm, "On Joyful Days;" E. S., "Thank You, Pretty Cow," "The Ponies," "Mix a Pancake"—in *Primer Modern Music Series*; Reinecke, "Fair Snow White," in *Fifty Songs*; E. S., "Alice's Supper," in *Songs for Little Children*, Vol. II.

#### FIFTH GRADE.

*History: Industrial Chicago* (Miss Hall).—The purpose of this work is to waken and direct an intelligent interest in Chicago as a social organization. In so short a time only a few of the most obvious phases can be dealt with. We shall visit some of the centers of the simpler sorts of social activity: the market and shipping district (South Water street and the docks), the lumber and grain-elevator district (a boat excursion on the river), the Stock Yards, a brick kiln (Purington), and a typical manufactory (McCormick Reaper Works). These excursions will be made in the afternoons, and the mornings will be occupied with recitations, where the children will use the data collected during the visits. The final point of such work must be to show the relations between consumer and producer, the number of hands through which products pass, and the value of the different members of the social machine; and to establish the idea that our comfort is the result of wide contribution, and that an individual is valuable only as he does social work. These ideas can be only partially and materialistically conceived by children of a fifth grade. Some of the means used for objectifying these notions will be: the children's making of serial drawings illustrating the industrial story of certain products, their dramatization of one such story, making of a crude map of Chicago that shall show several socially characteristic districts, reading of stories of Norse life and of colonial life, writing of papers that shall show the differences between the work done in those old families and that done in a family of the present day.

*Literature: Norse story.*—Here is given the picture of life less broadly socialized, to make more vivid by contrast our modern conditions. The correct setting in landscape, costume, and house will be given by pictures and description. The stories will be interpreted by oral reading, dramatization, drawing, and painting. In the sloyd shop the children will make a wooden model, stained and painted, of a group of Norse houses and of a Viking ship. These models are to belong to the school museum. It is hoped that this work in the sloyd shop, besides elucidating the conceptions of the Norse people, will link itself in the children's minds to the idea of social organization dealt with in the historical study.

*Geography* (Mrs. Thomsen).—North America: The excursions enumerated above will form the starting-point for the study of North America. The children will observe how products from all parts of our continent are sent to this city. A study will be made of the typical areas from which these prod-

ucts come, such as the farm lands and stock-raising area, the lumbering and mining areas. The continent will thus be built up of plains and mountain regions. The relation of climatic conditions to topography, and of these to the industries, will be the main point of the three-weeks' work. Sand-modeling, chalk-modeling, drawing of landscapes, pictures, maps, books, and excursions will be the means of study.

*Songs for fifth grade.*—E. S., "Fireman's Song," "Vacation Song," "My Heart's in the Highland;" Reinecke, "Spinning Song;" E. S., "Dark Brown is the River."

#### SEVENTH GRADE.

*Science and number* (Miss Wygant).—The recognition of the principle of the adaptation of plant life to its environment is so essential in working out the history of the region, so elemental in the imaging of unfamiliar regions, that this has been chosen as the work for the seventh grade in science. To most children this is an entirely new idea. That the swamp and the lakeshore present different aspects is a fact so common as to arouse no wonder, no questions.

The areas chosen for study will be sand, clay, meadow, and swamp regions. The children will be asked to recall a swamp in as much detail as possible, to discover their experience and knowledge. A trip will be taken to the swamp where they can test these reports and enlarge them. While at the swamp, they will make paintings of the landscape. After returning, as complete a record as possible will be worked out. A model of the swamp will be made from materials brought home, their paintings enlarged as a background, and stuffed specimens of any birds seen on the trip placed in the model. Paintings of the individual plants will be made before they wither, which will show root, stem, and leaves. Any general characteristics noted concerning these will be put in written form, and these, with a sample of the soil, will be preserved as part of the record.

A trip to south shore presents a sandy beach, a clay bank, and meadow land. This trip will be taken and later worked out in a manner similar to the swamp area.

By this time the children will have sufficient data for working out the question of the cause for the different appearances of these areas. The factors which usually are reckoned in plant growth—light, heat, moisture, food, and soil—will be considered. Light and atmospheric heat are practically the same as is the moisture from rainfall in the different regions. Therefore, the moisture and food in the soil—or, in short, the soil—will be the ground for study under the following topics:

1. Test sand, clay, loam, and vegetable mold as to its capacity to hold water, noting through which the water percolates most easily, and from which the evaporation is greatest. Enlarge these data into a picture of what it means on our garden, for instance, with a single rainfall of five-tenths of

an inch or with the average of a month, in actual amount of water on the garden ; quantity which may be depended upon for plant use ; quantity which will evaporate. Compare F. H. King's estimate of amount of water needed by a single plant in twenty-four hours with the amount of water in a cubic foot. This makes the extent of root surface more intelligible.

2. Place an equal amount of each soil in, say, one pint of rain water. At the end of five days note solubility of each, and compare results. Record what percentage of each is dissolved. Upon this basis estimate the amount of dissolved material available for food in one foot of each soil over one acre of ground.

3. Test specimens of soil taken from each area twelve inches below the surface to find the percentage of moisture in each.

4. With this dried material, determine the vegetable and mineral matter in each. Save the ash for future use.

5. A group of children will test the plants from each area for the amount of moisture, the vegetable and the mineral matter in each, and compare the results with those obtained from the soil in which these plants grew.

6. Test the ash of each group of plants for the following chemical properties: lime, sulphides, boric acid, phosphates, calcium, magnesium, sodium, potassium, common salt, and iron ; and compare results. This leads to the question of where the plants obtain these minerals. The same groups of children will test the ash of the soils which supported the growth of the plants which they have just tested, for the same chemical constituents. Discover whether the results obtained from the soil and its vegetable growth correspond.

The explanation of the difference of soils leads to their origin. Clay will be made by powdering felspar and extracting the potash ; sand, by shaking stones in water ; vegetable mold will be examined, and decaying vegetable matter found both by the unaided eye and by use of the microscope. Specimens of rock, in various stages of weathering, is impressive testimony on the subject. The case of earthworms in the first grade, which will be accessible to the seventh grade, will illustrate the work of these animals in soil-mixing, as the case is to be filled with layers of different soils.

The work will be rounded out by a trip to the sand dunes, where the sand area, swamps, swamp-making, and dying swamps may be seen in great perfection. Upon their return the children will work out, in large sand pans, the formation of dunes, the intervening swamps, and the filling in of the same.

All the experiments may be given without laboratory equipment, and to make the work as practicable as possible the children will work in their class-room.

The directions for the experimental work will be given to the children in printed form, which may be obtained, if desired, during the summer school.

Miss Eleanor Smith will have charge of the music in the grades.



*Literature: Tennyson's Gareth and Lynette* (Miss Hall).—The points to be made are: the picturesque aspect of chivalric custom; the moral beauty of knightly vows and aspirations; the characters of Gareth, Lynette, Arthur, Launcelot; the literary quality of Tennyson's poem. The first point will be made by the children's reading outside of class about castles, hawking, tapestry-making, jousts; and by studying pictures and models of castles and armor. Tennyson's story and other simpler stories, to be read outside of school must make the second point. Discussion, reading of other stories about Arthur and Launcelot, playing the part of one and the other person, writing papers in which these people are seen from different points of view, will be the plan for making the character-study. Oral reading of the lines, noting the rhythm, insistence upon vivid imaging, reproducing in words or with paints the pictures set forth by Tennyson, but most of all the study and comparison involved in planning and writing a dramatization of the story, will work toward an appreciation of the literary beauty of the poem.

To hold the papers written for this work and all others of the summer each child will make himself a portfolio, to be planned, made, and decorated by himself after study of book-cover designs, old and new. The children will learn the story of old monkish book-making, reading what they can, being told at other times, visiting the museum of the Newberry Library.

*Music: Songs for seventh grade* (Miss Smith).—"Song of Knighthood," "The Postilion," Kruse; "Siegfried's Sword," "Song of Charlemagne," Marschner; "Richard Lionheart," "Garden;" Rheinberger, "Spinning Song."

## THE TRAINING OF THE KINDERGARTNER.

THE growth of the kindergarten idea has been one of the striking features of the movement of education in this country. Kindergartens have multiplied during the last thirty years with amazing rapidity, while the dignity attaching to them has correspondingly increased. Established first as mission centers and as feeders for the primary departments of private schools, then as adjuncts to public schools, and still supported by private means, they are at last found as integral parts of the school system in many cities, great and small. No phase of the growth of the kindergarten has been more significant, and none more bound up with its progress, than the training of its teachers. Kindergarten training schools of every kind and status have sprung up to furnish teachers. Some of this training has been most worthy and thorough, and has given the students an interest in and outlook upon the whole field of education. It has become an accepted thing that the kindergartner must be trained for her work. It has even been demanded by school boards when the same trustees accepted and installed teachers of other grades without specific training for their work.

A certain mystery has surrounded this training, and perhaps it has been this regard of the people for something esoteric in the making of a kindergartner that has been the salvation of the kindergarten as a valuable factor in the mental nurture of little children. Up to the present time the uninitiated have respected the order, "Hands off!" and it is largely owing to this respect that the kindergarten has been allowed to preserve its peculiar character and to push its way, unconformed, through the confused orthodoxy of the public school.

In their training kindergartners are taught to demand an environment for little children which includes certain fixed items, such as small groups, ample space for bodily movement, suitable and expensive apparatus and furniture; certain desirable accessories, such as music, pictures, and garden plot, are also

sought. This rigidity of requirements has both helped the kindergarten to maintain its essential characteristics as an institution and has also prevented its wider establishment. The essentials which have been preserved are, in the main, those which are now being claimed for grades beyond the kindergarten. Possibly the example of the kindergarten may have had some influence in shaping this opinion, and, if so, the training of the kindergartner, though often superficial when judged by changed standards, has had something to do with a tendency toward elasticity in public-school conditions.

But what is this peculiar character, this identity of the kindergarten, of which we speak? Is it desirable to struggle for its maintenance? The kindergarten has lived as a distinct department of education; it has exhibited certain methods and ideals; it has had a certain philosophy, and even psychology, of its own. Schools have been colored with its ideals. Because it has been able to preserve its character, it has been effective in modifying the régime of the school. The beauty of creative work and play, the necessity of joyousness, and the value of play have made their appeal to every grade, from the kindergarten to the high school; and yet something is to be said on the other side. Because the kindergarten has demanded trained teachers, and space, and expensive equipment, and has had a distinct philosophy, it has separated itself from the school. In most cases these things are accorded the kindergarten as the pet of the school system, as the baby of the family; the charm of the little child gains for it privileges that are denied the older one, who, less attractive, and apparently less sensitive, is given less care. That the building-up process is dangerous is proven when we find that by a sudden move of its school board a great school system puts its kindergartens and kindergartners under exactly the same regulations that govern the grades and teachers above them. With absolutely no concern for the lack of integrating power in five-year-old children, they are rounded up twenty-five in a class, with one teacher, who must be will-power, or stimulus, or vivacious example, or anything that will transform the herd of fickle, easily stimulated, irresponsible, sensitive little beings into the

outward semblance of an orderly community. Regardless of the strain this puts upon the kindergartner who is working in the same room with another, and her class of equal number, she is required to take another set, the same day, for a repetition of the performance. This is not education; it is not even good nursery work. And this is the sort of remodeling that the public kindergarten is liable to undergo when a movement toward equalization of salary is set on foot, with justice toward taxpayers and fairness toward other teachers as a main plank in the platform. Justice toward the teachers of other primary grades would require a leveling-down process rather than the leveling up, a diminution of numbers for her, without diminution of pay, while the quality of teaching received in return should compensate taxpayers who need justice. It is to be hoped that this is a passing phase in the process of unifying kindergarten and public schools. That the unification must go on, many conditions stand as evidence. First, the kindergartner herself too often shares in a narrow view of her function and opportunities. She is also too apt to take the part for the whole, to make the word "kindergarten" spell "education." Her sense of proportion where her work is concerned sometimes resembles that of her charges who fill the foreground and swell to major proportions that detail of the whole picture which touches most closely their experience and interest for the time. Her first glimpse of the charm of a philosophical outlook came through the doors of a kindergarten training school; it is quite natural, therefore, that she should label all subsequent views of truth, "kindergarten ideas." She has limited her associations and aspirations to the subtle, most important, but necessarily limited, work of teaching children between the ages of three and six.

Just at this juncture a most pressing need is to open to her and to all teachers by the surest process that undebatable ground which the kindergarten occupies and to which the whole school holds an often unused title. At the same time they must recognize that little playground and garden plot that belong to infancy and to children who are still in what is termed the play-stage of growth. It must be admitted, too, that the kinder-

garten as a tradition and as an institution has its air-castles with no solid ground beneath; and since the school has plenty of its own rearing, it needs none of ours.

What is the common, the undebatable, ground? Is it best that it should continue to bear the label "kindergarten property"? The kindergarten has modified the school; but it has not worked alone; tremendous forces have been at work in science, philosophy, history, and social science; and in the world of industry itself changes have come which are felt in the change of school conditions. The school at which the kindergarten looked askance twenty years ago is not the school that is growing now. In such schools as dot the New World and the Old today there are growing ideals, entirely in harmony with those of Froebel, and it behooves the kindergartner to take account of stock and see what will bear critical inspection by those who direct the movements of these schools. If her revered Froebel is beyond dissent, is she living up to the largest of his teachings?

The kindergarten has what might be termed transient and permanent values. The transient values are those modes of treatment and adaptations of subject-matter that belong especially to the child who is largely absorbed in play-processes, and to the child who has begun to seek his ends by indirect methods, but in whom play is still a dominant motor force. It is the permanent values that are absolutely common property. Under the latter we might reckon those principles of education which grew out of Froebel's sociological and psychological intuitions. This still leaves at one side the metaphysical basis of his system. To these principles the kindergartner has learned to suit her practice, more or less directly; her future training must be such that she will recognize the universal nature of these laws of growth and the continuity of social endeavor. She must not see these things as vague theory, but must know how they are being carried out in practical details throughout the school, as Froebel tried fifty years ago to put them into working shape in the kindergarten. This demands a broader culture as a foundation, a more thorough scientific basis, a training in

modern psychology, and a view of a school that is working upon these problems with children of all ages.

This demands a somewhat humble attitude on the part of the accomplished or would-be kindergartner. It means a yielding up of prerogative and individuality of her profession, that it may contribute its germ and find itself in a larger growth. First, and simplest of all, we must cease to use such expressions even of commendation as one often hears; for example, that this or that schoolroom has "the true kindergarten atmosphere." We must accustom ourselves to the general terminology, and not place the barrier of a particular one between ourselves and the rest of the educational world.

Foebel's teaching has grown because it has foreshadowed the trend of modern thought. The concept of growth by evolution is current in his writings. He builds upon the doctrines of development, of growth by use, of differentiation, and of power through adaptation to environment. There is a true psychology implicit in Froebel, and what he suggests and muses over and builds upon is the same in germ that the later and closer thinker analyzes and investigates.

The kindergartner who has been taught Froebel's doctrines owes herself the illumination of a psychology that verifies his intuitions, and a sociology that gives his humanism another ground than that of mystical metaphysics.

Where Froebel saw that "the child develops as the race," we have now volumes of research from such men as Groos, Wundt, and Max Müller to show us how and where.

Froebel taught that through the work of his hand a child grows into clearness as to the nature of the material about him and as to his own place in the long process of civilization through industrial art. It is possible now to consult a long roll of these writers upon the evolution of mind through social occupations.

Thus, if the kindergartner yields up her particular claim to the social ideal which Froebel taught, she may gain immeasurably. She knows already that Froebel incorporated certain occupations involving rhythm of movement and pleasing color and design, because a child needs these things. She knows that

he sought for an early introduction through play to the social activities of the race, that he might early feel the social contact, and that he might be put in touch with the historical development of the race. It is all-important that, if this be true, she may know definitely how the animus of this play of the kindergarten is being matured in the work of older children. She will have an added sense of relative values in seeing these first employments and plays of the kindergarten as the initial steps in a long process of self- and social realization. It will surely enhance the reality and practicality of those words, "continuity" and "unity," which met her at the threshold of the kindergarten training school, and of which she has discoursed fluently in essays and abstracts. It is possible, too, that it will clear the vision of what may and should be done for the younger children. There are many more phases of this question not to be touched upon in the limits of this article, which has merely discussed the past function of the kindergarten training school and the opportunities which may open to the kindergartner of broad and deep culture, who sees the universal nature of the questions which Froebel's theories have already presented to her. For future articles are reserved the reflections which an experience with older children forces upon a kindergartner, and some observations on the different aspects of the psychological and metaphysical bases of Froebel's kindergarten.

BERTHA PAYNE.

THE UNIVERSITY OF CHICAGO  
School of Education.

## FAIRY-TALES AS LITERATURE IN THE SCHOOL.

It would seem that there is no longer a call for a demonstration, or even a statement, that there is a place in the child's education for the fairy-tale, that he has his moment of psychic and social ripeness for it, and that it has its own contribution to make to his culture. However much difference of opinion there still may be as to the date or duration of the moment, or as to the precise nature of the contribution, it is practically agreed that the nursery tale, whether told at home or transplanted to the school, constitutes the child's introduction to imaginative art, and as such takes on considerable educational importance. But even when we have all granted that the child needs such stories, when we have even agreed in the main as to the purposes for which we give them and the age to which they are best suited, we have, so far as the practical side of the matter is concerned, only made a beginning, because we then find ourselves facing the multiplied thousands of things called fairy-tales, with the necessity of choosing upon us. And so wide is the range in subject, and so great the difference in quality in the material, that we are obliged to conclude that it is this choice which determines the efficacy of the stories for artistic pleasure or for discipline. The really serviceable thing to be done, then, in discussing the use of the tales, particularly their use in the school, is to point out some principles of selection, some tests to be applied in considering the tales as art and as educational material.

It may help toward a set of selective principles to say, to begin with, what we mean by fairy-tales. It is impossible, in the first place, to limit the class to those stories that have in them supernatural or preternatural elements, that deal with an order of invented preterhuman beings. With the old fairy-tales, in this narrow sense, have gradually been incorporated folk-tales dealing with matter which involves only natural and human material—beast-tales and bits of comic realism, for example. With modern fairy-tales are inextricably intermingled stories of all



marvelous experiences, stories of animals, and other so-called nature stories.

The traditionary tales, the real folk-tales, have been divided into these three classes: (1) *Sagas*—stories told of heroes, of supernatural beings, of historical events, of physical phenomena, and intended to be believed. They have passed out of the stage of myth, or are to be differentiated from myth by the fact that they have no religious or symbolic significance. Such a story, to take a familiar example, is *Whittington and His Cat*. (2) *Märchen*—those that are told for amusement, pure imaginative play, exercise of the art instinct. They may be modified sagas, or may be originally invented as *Märchen*. They may or may not include supernatural or preternatural elements. They constitute the large mass of nursery and popular tales. *Cinderella*, *Beauty and the Beast*, *Puss in Boots*, *Little Red Riding-Hood*, will do as examples. (3) *Drolls*—comic or domestic tales, which also may or may not contain the impossible, the marvelous, or the preternatural. Generally they are stories of funny misadventures, cunning, tricks, horse-play, or of the misfortunes or unexpected good luck of “noodles.” Such are *Kluge Else*, *Lazy Jack*, *Mr. Vinegar*, *Hans in Luck*.

The modern stories corresponding to these are of three classes: those written in imitation of the folk-sagas and *Märchen*; those which introduce preterhuman elements as symbols; nature stories which personify natural phenomena or forces. Naturally this discussion has nothing to do with the modern story of human life that has nothing symbolic or marvelous in it.

It is not mere convention that leads one to choose for the child in school the traditionary or folk fairy-tale rather than the corresponding modern story. One is reluctant to grant that there may safely be any difference between the literature given in the school and that read to the child otherwise. But it is easily seen that certain things may be read once and lightly in the nursery, read and dismissed, that are not worth reading and lingering over in the school. Many modern fairy and fanciful tales are pretty, harmless, amusing, and even instructive, and do, no doubt, contribute really to a child's recreation, but have not,

nevertheless, those abiding qualities one seeks in a story he presents as discipline. First of all, modern fairy-tales are not convinced or convincing. They are imitations, and, like all imitations, they miss the soul of the original. There can be no new fairy-tales written, because there is no longer a possibility of belief in the reality of the fairy and the fairy-world. The substitution of the "pert fairies and dapper-elves" of literature and the modern world for the serious and effectual preterhuman agents of the older folk-tales has created in the new stories an atmosphere of dilettantism, of insincerity. It is not for nothing, too, that the folk who produced the tales and the child who should hear them are upon somewhat the same level in many matters. The simplicity, earnestness, and credibility of the folk-tale adapt it to the child's use—are, indeed, the qualities that give it its child-likeness. It is practically impossible for the adult author of a modern fairy tale to keep his adultisms in abeyance. Nothing is so alien to the consciousness of the child as the consciousness of the grown, educated man; and it is by nothing less than a miracle that he can keep his own sophistication of various kinds out of what he writes for children. His fairy-tale, failing in earnestness, is likely to be full of sentimentality. Failing in belief, it is likely to be filled with cynicism and cheap satire under the guise of playfulness. These faults may be found plentifully even in the best work of Hans Christian Andersen, for example.

The obviously amateur heat-fairies, snow-fairies, flower-fairies, and all the others which figure in the merely fanciful and generally petty myth-making of the nursery, the kindergarten, and the holiday book of commerce serve chiefly to bewilder the child's imagination, and to cheapen the supernatural in his art, which should be sparing and earnest. Besides, the natural phenomena with which they are connected are much more beautiful and more appealing to the imagination if rightly presented as plain nature.

Is not the same thing true of the large mass of nature-stories also? There is no objection to a genuine story of nature—a narrative of the actual progress and evolution of an occurrence

or an object in nature. If truly observed and skilfully told, however, it stands best as actual fact, and is only confused by the introduction of personification and of pseudo-preternatural elements. The ordinary "nature-story" containing these is necessarily repudiated by literature, since its purpose is to teach scientific fact, and by science, since it proceeds by the extra-scientific methods of fiction and personification.

There are some special things to be said about the modern animal story that seem to belong in close connection with a discussion of nature-stories. Many of them must be removed from the category of nature-studies because of the fact that they are not designed to teach us the facts concerning the beast—his physiology, physiognomy, habits, or habitat—but to present his character. The human consciousness has no difficulty in taking an artistic, literary interest in the character and experience of a "little brother" so like ourselves as Rikki-tikki-pavi. Yet in these really literary animal stories—the best of Kipling's, a few of Seton-Thompson's, certain of Mr. Lang's and of Miss Pearson's—it is not at all a secondary, transferred interest we feel in them as fables, or as figures for human life, but a true, justifiable interest in the characters and situations of the creatures themselves. Kala Nag is a personality, albeit an elephant personality; the "Gray Goose" in Miss Pearson's little story has a character, a truly anserine character. It makes all the difference between science and literature whether the story aims to teach the external facts of the creature's life and nature, or penetrates by sympathetic insight below the surface and presents him as personality. Incidentally one may note that the modern animal-story, when it is good, is more acceptable to teacher and child than the traditionary beast-tale, which for the most part was pure fable, mere satire, or belonged to the class of *Les Pourquoi's*, and therefore is to be reckoned as myth.

The modern child's story which uses certain invented and preternatural elements by way of symbol must also receive special consideration, and must not be included in the apparently sweeping condemnation of modern fairy-stories. It is, of course, to be used for children older than those for whom the

*Märchen* are suited. When the child is old enough and trained enough to make for himself some application of the symbol, one may expect good results from reading to him such stories as *The Bee Man of Orn* (slightly edited), *The Water-Babies* (always expurgated of Kingsley's ponderous "fooling"), and *The King of the Golden River*. But as for the sagas and *Märchen* chosen for the child when he has his distinctive hour of readiness for fairy-tales, the teacher is wise who chooses them from among the folk and traditionary tales. To the people who made them the supernatural persons and powers of the tales were serious. Titania and Oberon, flower-fairies, dew-fairies, gauzy wings, and spangled skirts were not in the mind of the people who told tales of the sometimes grim and *schauderhaft*, and always serious, fairies, elves, goblins, or what not. Little brown men disappearing into a green hillock with the human child, in exchange for whom they have left in the cottage cradle a brown imp of their own; the godmother with the fairy gift who brings justice and joy to the good and oppressed maiden; the kind and gentle Beast whom love disenchants and restores to his proper form—all these are to those who made them serious art, and they should be so to the child. We must never forget that these traditionary stories have the immense advantage of not having been made for the child. The *Märchen* of our day was the grown-up novel or romance of the people among whom it had its earlier history.

Then the human world of these tales is a delightful and wholesome one for the child. It is a naïve and simple world, where he may come close to the actual processes of life and see them as picturesque and interesting. Where else in our modern world can a child encounter the shoemaker, the tailor, the miller, the hen-wife, the weaver, the spinner, in their primitive dignity and importance? There are kings, to be sure, and princes, but, except in certain of the stories that took permanent literary shape in the seventeenth century, they are, like the kings and princes in the *Odyssey*, plain and democratic kings, on terms of beautiful equality with the noble swineherd or the charming tailor. King Arthur in the nursery ballad stole a

peck of barley meal to make a bag-pudding, in the homeliest and most democratic way, and the picture of the queen eating bread and honey in the kitchen seems only natural to the little democrats of six and seven in our own day. This world of genuine people and honest occupations is charming and educative in itself and constitutes the most effective and convincing background for the supernatural and the marvelous, when that element is present.

But among these tales the possibility of choice is still limitless, and the teacher needs to look for closer principles to guide him. First, since it is literature he is teaching, it would seem well to exclude myth. One is quite aware that in even the most purely social of *Märchen* there may be found relics of myth. But they are such as have long ago lost sight of their religious origin and use, and have either become entirely humanized or have taken their places as aspects of human life and experience. The study of myth undoubtedly has its place in human culture, but it is not a substitute for literature. It is with a distinct shock that one hears the sublime and terrible myth of Demeter or the noble doctrines of Apollo called "old Greek fairy-tales," and babbled in the kindergarten.

Again, keeping in mind our purpose, we would leave aside at once the crude, fragmentary, or chaotic material which appears in the folklore journals or other scientific collections, in favor of those stories which have more completeness and a more artistic form. Of course, the teacher may at any time detect in one of these apparently crude or formless records the material of a beautiful story, and may himself endow it with the artistic form which suits it. So, too, occasionally a contemporary collector of oral tales brings to light a really artistic literary story, such as certain of the Irish tales given by Yeats or by McManus, or of the Zuni tales collected by Cushing.

But the teacher needs be very expert, very sure of himself, or must have extraordinary needs, in order to feel obliged to go outside the accepted canon of fairy-tales for his material. For there is a canon more or less fixed. It contains Grimm's Tales, Perrault's *Mother Goose* tales, a few of Madame d'Aulnoy's,

some from the *Arabian Nights*, some unhesitatingly admitted lately from collections of English folk-tales made in our own day, two or three chap-book stories, one or two interlopers like *The Three Bears* and *Goody Two-Shoes*—not popular tales at all. One would not attempt to fix the limits more narrowly, for he has no sooner closed the list than he realizes that every teacher who has used them, and every mother who has read them to her little people, and every boy and girl who loves them, will have some other tale to insert, some perfect thing not provided for in this tentative catalogue. But, on the whole, may we not agree that the list suggested constitutes the authentic, the accepted canon of fairy-tales, established and approved by the teachers and children of occidental tradition and rearing? But within this number there must be for the teacher further choice and sifting. He cannot give them all. Practically all children have too many tales read to them and supplied to them to read. A complete collection of Grimm's fairy-tales will demoralize a child's imagination by a mere surfeit. For a whole year in the fairy-tale literature (provided it be arranged in such a way) the teacher would not need a dozen tales.

Now, it would be merely fatuous not to be aware of the fact that, when one is discussing the question of this final choice, he is upon moot and delicate ground—that he is, indeed, attacking certain problems which are, in their more complex aspects, the ultimate problems of literary criticism and of æsthetics. And he must save himself from an imputation of presumption or dogmatism by confining himself to a few general principles of choice and by refraining from making a specific choice for anyone else. The teacher must constantly fortify himself by the reminder that he is seeking *literature*, and that he is therefore freed from any obligation to the stories as material for scientific folklore; he is not teaching sociology, and is therefore freed from any obligation to his material as records of the progress of civilization. While the conscience of every student should revolt from all tampering with a classic story which changes either its content or its intent, there is surely no reason why the person who

is using the tales as art should not choose those most satisfactory from the artistic point of view. Here he will apply precisely those principles he should have learned to apply in judging good and real literature anywhere. Certain of these principles, however, seem to have special application when applied as tests of the fairy-tales, and certain salient peculiarities of the tales themselves seem to condition the student's choice more narrowly. It may not, therefore, seem amiss to note a few special principles.

The teacher will select those tales that have somewhere in their history acquired an artistic organization, rejecting in favor of them those which remain chaotic and disorganized. Compare, for example, in this matter, the perfect little plot of Madame Villeneuve's *Beauty and the Beast* with Grimm's *The Golden Bird*, a string of loosely connected, partly irrelevant incidents. He will prefer those that display economy of incident—in which each incident helps along the action, or contributes something essential to the situation. Of course, it is rather characteristic of the folk-mind, as of the child-mind, to heap up incidents *à propos de bottes*; but, as this is one of the characteristics to be corrected in the child by his training in literature, so it is one of the faults which should exclude a fairy-tale from his curriculum. To make the difference among the stories in this regard quite clear, compare the neat, orderly, and essential flow of incident in *The Musicians of Bremen* with the baffling multiplicity and confusion displayed by Madame d'Aulnoy's *The Wonderful Sheep*. Other things being equal, he will prefer for discipline those fairy-stories which use the fairy and other preternatural elements in artistic moderation to those that fill every incident with marvels and introduce supernatural machinery apparently out of mere exuberance. This element is much more impressive when used in art with reticence and economy. Even a little child grows too familiar with marvels when these crowd one another on every page, and ceases either to shiver or to thrill. In the fairy-tale, as in art for mature people, the supernatural should appear only at the ultimate moment, or for the ultimate purpose, and then in amount and potency only sufficient to accomplish the

result. Perrault was very cautious upon this point. In all his tales he seems to have reduced the element of the marvelous to the smallest amount and to have called upon it only at the pivotal points. Compare, for example, in his *Cinderella* the exquisite sufficiency of his single proviso, "Now, this godmother was a fairy," with the tedious superfluity of irrelevant marvels in Grimm's version of the same tale. Is this bringing the fascinating abundance of the Teutonic folk-fancy to a disadvantageous comparison with the neat and orderly, but more commonplace, Gallic mind? It would be a pity to do that. One hastens to say that every child should hear, and should later have a chance to read, some of the free, wandering, extravagant fantasies which his teacher could not feel justified in giving him for literature lessons.

It is a mistake to ask of any piece of art that it should proclaim a moral, that it should preach a doctrine, that it should conform to fact of human experience. Indeed, one is practically always safe in rejecting from the ranks of art any bit of work that deliberately or actually does any of these things. The folk-tale may be *unmoral*, and serve the purposes of amusement and discipline in literature; but if it be *immoral* it should be left aside in favor of those more artistic, because ethically sound. Many of the popular tales turn upon a piece of trickery or disobedience or irreverence, or more serious immorality, which has upon it the weight of approval in the story. The trick or lie succeeds, and the trickster or liar is a hero. Every teacher will be wary of such as these. The pivotal issue, the central spring of a story, must in the study of it bear close inspection. If it is ethically weak it is artistically unsound.

Of course one must be very cautious here. One must not be Puritanical or Pecksniffian. Subtlety is the savage virtue. Along with horseplay it is the child's substitute for both wit and humor. The wiles and devices of the protégé of Pallas Athene but serve to endear him the more to the children to whom the *Odyssey* is read, as they did to the goddess herself. We cannot justly complete our list of literature stories from the traditionary tales and exclude all in which subtlety, trickery,



constitutes the motive force. But we can see to it that the trick tends toward the securing of poetical justice, or of actual logical justice. And we must, as has been hinted, make the proper allowances. According to the nursery code there is no harm, for example, in playing a trick upon a giant. By very virtue of being a giant, with the advantage of size on his side, or with an unpardonable weight of stupidity to account for, he is fair game for all nimble-witted heroes. So also is the butcher, the hereditary villain of the folk-tales. Let it be a clear case of the biter bitten, and at the same time a clear case of the injustice or stupidity of the original biter, as it practically always is in the best *Märchen* of the canon, and one need not fear the result, certainly not the artistic result, upon the sensible child. At the same time, to use a large number of these tales would place the child in an atmosphere of trickery and petty scheming, and be most undesirable.

We are obliged to take much the same attitude toward the violence of many of the most attractive of the nursery tales. Several of them reflect a rather rough-and-tumble state of social communion; many exhibit a superfluity of bloodshed or other grisly physical horrors. It is surely not wise to read enough of these or to linger long enough over the forbidding details to create an atmosphere of terror. But fear and terror are among the roots of artistic appreciation, and it is certainly true that the modern child of six and seven has, as a rule, so little apperception material for physical horrors that they do not take any deep hold upon him. Murder in the *Märchen* is to him actually a bit of fine art—merely a neat and convincing way of disposing of iniquitous elder brothers or inimical magicians. The fact that the child's experience and information enable him to make no image of the physiological sequelæ of the cutting off of heads, for example, makes it easy for the teacher to carry him harmless past details that would seem brutal to his nervous elders.

Those whose patience has carried them thus far in this discussion have discovered for themselves that it limits itself to the

matter of choosing the fairy-tales, and does not handle at all the more fundamental matter of their educational service, nor touch at all what may seem the more practical matter of the presentation of those chosen. Each of these is, indeed, another story.

PORTER LANDER MACCLINTOCK.

THE UNIVERSITY OF CHICAGO  
Laboratory School.

## THE USE OF BOOKS AND LIBRARIES.

THERE is, perhaps, no one in an educational institution who appreciates more keenly the great inequality of the book environment of the students than does the librarian.

One child has heard the best literature in song and story from the time he was an infant in arms. He has been told the simple folk- and fairy-tales of many countries. He has grown up in a home where there is a large library, and he has browsed among the beautifully printed and illustrated works of the masters of literature. His parents and tutors have taken him to the large public and private libraries in the city, and he has afterward chosen to spend many of his leisure hours among their treasures. Authors, artists, travelers, and scientists have frequented his home. He has had a natural love for literature, and he has lived up to the opportunities offered him. This youth enters college on exactly the same basis as the boy who was born of a poor, ignorant mother with neither the time nor the knowledge to tell him the stories he should have known in his childhood. He has had practically no books in his home. His life has been spent on a farm or in a small village quite out of the reach of a library. He has traveled none, and his companions have had no better advantages than himself, and much less ambition and ability. These are extreme types, to be sure, but extremes that are actually met in a college library, and the remaining student body arrays itself between these wide limits.

In the institutions for higher learning all the subjects are presented by specialists, few of whom recognize this inequality in their students. They assign the students certain books to use in the class-room; they refer to various books and authors heretofore unknown to the student; they sometimes refer to various classes of books in different libraries; or again they may tell the students to find what they can that has been written on a given subject. The librarian knows that these are difficult problems for the boy who is using a large library for

the first time, and he knows that the majority of students waste hours of time because they do not know how to use books and libraries economically. It is to be regretted that the students have not gained a more systematic knowledge of the use of books before they have reached college. It would have saved them many hours of unnecessary work, and helped them so to arrange and classify their knowledge and material that they would have been much farther on their way. It is certainly possible to do considerable in this line for them long before they have reached college age.

Books may be divided into two general groups—those that are one's friends and those that are one's tools. It is of the greatest importance that the standards of choice of both tools and friends be high. True standards are usually the results of slow growth, and begin in early years. It is in the home that the child is introduced into the mysteries and beauties of bookland. Mothers who buy the largest and brightest colored picture-books on the bargain counters in the department stores have probably never considered how poor a foundation they are laying for their children's appreciation of books. It is necessary for the mother to join the teacher and librarian in their search for the picture-books with the best color, drawing, and subject-matter, of which we have splendid examples in Boutet de Monvel, Walter Crane, Kate Greenaway, and Cecil Alden. One feels that the child who has not learned from his own mother the "Mother Goose" rhymes and such stories as "The Three Bears," "Little Red Riding Hood," and "Sleeping Beauty" has been deprived of a certain quality that belongs to these stories which the teacher and librarian can never supply. Some of the public libraries are trying to meet this problem by inviting the mothers to visit the children's room and examine the books they have so carefully selected. They urge the parents to bring their little children with them, and have bought cloth and board books for the youngest which they can take to their homes.

The child's knowledge of the book begins to develop very rapidly when he goes to school and learns to read. In the

primary grades of some schools each child makes a dictionary for himself and binds it in an appropriate cover. He thus early learns the alphabetic order and a simple form of constructing a book.

A pleasant and profitable relationship has been established between many schools and libraries where the teachers have asked the librarian to visit their schools and tell the children about the library, and the librarian has invited the teachers to come to the library and let her show them where the "most interesting books" are kept. This seems to be an excellent plan, if one can judge from the children who often return to become the library's steady patrons, and who would probably never have found their way there except in some such way as this.

If a person has not grown up with books and had the opportunity of handling them freely, there seems to always remain with him a certain fear and awkwardness in using them. The public library of today, with its carefully selected shelves in which the child can revel at its will, is giving him a splendid chance to make true and lasting friends and to broaden and find new interests. But even browsing, with all its virtues, must be somewhat guarded lest it become mere dissipation.

There is a certain systematic use of books which the child needs to be taught as he advances in the grades. Most of our modern libraries use one scheme of classification for their books and material. The general underlying principles of all plans of classification used today are the same, and the tendency is to give all readers as free access to the shelves as is possible. The youngest children are shown where the picture-books are kept. The older children find that the books are divided on the shelves according to their subjects, and that these subjects have an order of sequence. They are old enough now so that they begin to ask for certain books by name instead of color; they want books by a certain author and on a given subject. This is the time to explain to them the card catalogue, how it is arranged, and what it contains. Slowly and carefully the child should be introduced to the reference-books as they can serve him, and he should early be taught to compare and choose his authorities.

Gradually the intricacies of classification begin to unfold themselves, and he more plainly sees that the three fundamental ways of arranging material are chronologically, alphabetically, and by a certain scheme of arbitrary symbols; and also that there are many possible combinations of these methods. The book itself should be carefully studied—the binding with its design and the information that it bears, the title-page and its information, the arrangement of the table of contents and index, their purposes and comparative value, the relation each bears to the information given in the book, the aim of the preface and introduction, the various forms of chapter headings, pagination, notes, and bibliographic references.

The making of a book is a process that can be advantageously adapted to the handwork in the grades. The material used may be printed by the children or done with prettily illuminated letters. The title-page, introduction, chapter headings, contents, index, and pagination should be made in the style of the best books, and the whole bound with an appropriate cover design. The making of one such volume will give the child an appreciation of a book and a knowledge of its artistic and economic features that will usually make lasting impressions. This work may well be supplemented by visits to local binderies, booksellers, and museums where rare books are kept. It would be a great help to students if they were given some instruction in the taking and arrangement of notes which would enable them to make intercalations and additions from year to year, and still permit of a quick and advantageous use. As independence in study is gained in the high school, this work should be expanded.

In view of the fact that heretofore the lower schools have almost wholly neglected this work, it seems as if the most economic step to be taken is to adapt a course similar to the one just outlined, which should be introduced into the freshman year of college and into all institutions having to do with the training of teachers. Such a course need not be a lengthy one. It might divide itself into a consideration of the three following general subjects:

1. A study of the principles of the administration and organization of the library of the educational institution in which the

course is given. A general survey of the library facilities in the community and country which may be of use to the student.

2. The construction of a book.

3. The use of the best general reference-books, dictionaries, cyclopædias, atlases, gazateers, periodical indexes, bibliographies, and reading lists.

Book information often becomes isolated to the student, and in no way related to material and action. The book seems to be the most common way of conveying information, but there is no doubt but that the information desired could often be more quickly obtained if maps, pictures, charts, and specimens could be as readily interpreted. Training in the use of these other mediums is much to be desired.

The library is an important factor in every community and institution. Massachusetts has supplied all but one or two of its small villages with libraries, and these are reached by the traveling libraries. The other states are holding this as their example. The nation, the states, and the cities are taxing themselves to establish free public libraries for their people. Philanthropists are giving enormous sums of money to further the work. Librarians have found that they cannot meet the public demand by arranging their material on a scholarly basis unless they add to that a good strong business basis that will enable them to serve their patrons with as much certainty as do the best business houses of today. The well-organized libraries are strongly influencing the methods of instruction in our educational institutions. The National Educational Association has a library section devoted to the relation of libraries to schools. The state teachers' associations are forming library sections. A number of normal schools and colleges are offering courses such as this paper has outlined, which are of the most elementary kind, but open the way to extended bibliographic research. There are many encouraging beginnings in these lines, but at present the educational forces, as they touch the library problem, leave yawning gaps in some places and extravagantly overlap in others.

IRENE WARREN, *Librarian.*

THE UNIVERSITY OF CHICAGO  
School of Education.

## SOME STEPS IN THE EVOLUTION OF SOCIAL OCCUPATIONS.

### V.

It is important to recognize differences as well as likenesses in the attitudes of primitive man and the child. The simple attitudes of the savage have not been transmitted unchanged. There are differences due to a variety of causes. Transformations that took place in early racial activities have left their traces in body and mind. Time and again a changing natural and social environment demanded a breaking up of old habits and a readjustment to new conditions. During each process the physical co-ordinations originally bound up in the old activities were released to be incorporated as essential elements in new and more complex acts. New conditions, new activities, new attitudes toward life thus characterize each successive period of human culture. The earliest chapters in the history of these changes are embodied in the spontaneous activities of the child.

The presence of mental attitudes and physical co-ordinations that represent earlier stages of culture does not preclude the tendency toward later forms. Instinctive attitudes, though stronger in the child than in the adult, persist throughout life; but not even the child is so bound by instinctive activity as was the race in its earliest stages of development. Tendencies, impulses, which are the product of later periods of culture are present from a very early period in child-life. The physical co-ordinations of the child are more easily broken up than they were in remote periods of racial development. New co-ordinations are more readily made. In a word, the child, though inheriting in his physical co-ordinations and mental attitudes the traces of activities of past stages of culture, is not bound by any of them. They are present, not as an end, but as a means—a means of achieving in a brief period the point of vantage which it took the race long ages to reach. Each vantage-point that the child attains marks the giving way of old attitudes to new



ones, the releasing of former co-ordinations and a readjustment in the light of a new need.

A difference in mental attitudes which is most significant for educational purposes is one of function. The activity of the child, though as practical and as real from his own point of view as that of the adult, from the standpoint of the latter is neither practical nor real. This is due to differences in the conditions which operate in the life of the child and of the adult. Shielded from the struggle for existence, the child is free to expend his energy without regard to practical results. Energy which the race was compelled to expend in maintaining the struggle for existence in the case of the child finds a normal expression in play. But since the physical co-ordinations and emotional attitudes of the child are largely the product of the practical activities of the race during the early stages of culture, the surplus energy now, as then,<sup>1</sup> is expended in similar forms. What the savage did seriously under the necessity of hunger, the child, in obedience to his instinctive tendencies, does in a dramatic way.

Utility has no such meaning for the child as it has for the adult. That which is useful, in the sense in which the adult uses the term, the child takes as a matter of course. The useful to him is that which satisfies instincts which represent *higher needs*. The *real* attitude of the savage, fortunately, is not a normal one in child-life today. It appears only in cases of arrested development. Such cases are found in children whose development has been checked at the time when the transition from the dramatic to the scientific attitude should be made, and in children who are obliged to use the energy that should be devoted to purposes of development in performing real work.

To place the responsibilities of adult life upon the child is to arrest his development. It crystallizes the mental attitudes and the processes of life at a stage of development below that demanded by modern life. It transforms the *idealized* attitudes that should find expression in educational activities into real ones that are limited to utilitarian ends. Only by preserving freedom for the manifestation of energy in forms which are

<sup>1</sup> KATHARINE E. DOPP, *The Place of Industries in Elementary Education*, pp. 24-6.

not real in the sense of the adult, can we raise the individual to the plane where his real attitudes are in harmony with our highest standards of life. Only by allowing the child to express his ideals in dramatic forms, can his activities be articulated to those of modern society.

That primitive man acquired more skill than the child is not strange. He had need of more. Man early learned that the price of carelessness or lack of skill was apt to be the loss of a limb, if not of life itself. This fact acted as a powerful incentive in the development of skilful workmanship. The conservatism of savagery was such that little change was made in processes during many generations. The skill which the savage acquired in his youth was of a kind that he needed until the day of his death. A brief period of plasticity was all that was then required in order to lay the basis for the several necessary varieties of skill. It was more important at that time to train the youth to become self-supporting at an early age than to secure conditions for his future development. Motives to advance were never less powerful, while motives to engage in practical activity were never so great.

The conditions which affect the life of the child are very different. Society has made provision for the care of the child and is endeavoring to set aside the period of adolescence as well as that of infancy and childhood for preparing the individual to meet the demands of later years. This social habit is undoubtedly a wise one, since it tends to prolong the period of plasticity, the period during which the basis for future knowledge and skill must be laid.

The need of knowledge and skill is everywhere manifest. Never has there been so great a demand for varied and highly developed skill as at the present moment. Never has there been so great a need of ability to adjust oneself to a changing environment, or to take the initiative in inaugurating a change. In private life as well as in every department of public life there is a growing consciousness of a need of an insight into the fundamental processes of the natural, physical, and social sciences. In many places there is likewise a dawning consciousness of a

need of an insight into the principles of art. Such insight is impossible without a rich background of experience. The most favorable time for acquiring this experience, for laying the foundation for the skill required in adult life, is during the years of infancy and childhood. The most favorable method is not that which directs energy in such a way as to secure skill in a limited number of processes, but that which subordinates present skill to present as well as to future needs.

Social occupations that call into play the various impulses of the child serve to organize energy which might otherwise remain unavailable. Primitive industries so selected and arranged as to embody a generalized history of the early development of the race are free from the conservatism of savagery. They are transformed by the scientific spirit. Through the use of such occupations, processes which represent the achievements of ages may be condensed into a program for a few short months. Such occupations afford present satisfaction, because they meet a demand of the child for a form of practical activity in keeping with his power of control. They cultivate alertness because there is ever present a need of searching for new materials, devising new processes, or applying forces in more economical ways. They cultivate concentration because they make a demand for the fusion of a variety of otherwise unrelated elements into one process with which the child, for the time being, identifies himself.

Differences in the environment of the child and the savage greatly influence the choice of materials and tools with which to work. For long ages raw materials were free to whoever cared to take the trouble to appropriate them. This is far from the case today. The appropriation of the natural resources of this country have been made with so little regard for the future that already society is awakening to the need of devising ways of restoring the loss and of preventing wasteful methods. In thickly populated regions natural resources have been appropriated to such an extent that it is difficult for the child to come into direct contact with the raw materials of production. Even where uncultivated spots abound, the restrictions placed by the

owner are such as to prevent the child from making the free use of materials that it was possible for all to make only a few generations ago. The prevalence of such conditions makes it imperative that ways be devised of providing the child with the opportunities necessary for educative purposes. It is likewise imperative that the instinctive attitude of hostility be transformed as early as possible into a sympathetic habit of dealing with natural resources.

The excursion, the field trip, the school garden, and other informal means of coming into direct contact with the earth and its raw materials present most favorable opportunities for the cultivation of habits that will insure an appreciation and a fostering care of the natural features and resources in one's environment. Where the child is denied the privilege of selecting materials of production in their natural state, he may be provided with the opportunity of observing the growth of typical forms. Such observations, supplemented by various ways of illustrating the changes that take place, may be substituted for a complete first-hand experience in selecting and preparing raw materials, where conditions are such as to deprive the child of the opportunity of securing the latter.

Under present conditions the child finds in the by-products of artificial processes many materials which it is as natural for him to use as it was for the savage to use natural products. The danger that attends their use arises only when they are made to do service for more fundamental experiences.

In respect to tools as well as materials, the child is subject to a danger from which our most remote ancestors escaped. Obligated to invent the artificial tools that they employed, there was no possibility of possessing tools representing a technique beyond the power to control. But the child finds tools ready-made. He is surrounded by them from his earliest years. A large part of his early training is in relation to the use of the simple artificial implements, tools, and utensils that are found in every home. Little danger, if any, attends the use of simple artificial devices; but when the child is allowed to use tools without regard to their function, when he is allowed to form

careless habits, and thus waste material and injure the tools, it is time to call a halt. Until the child is able to gain a practical appreciation of the significance of a tool, there is need of limiting his use of tools to those that he is able to control. There are those who would do this by simplifying the child's environment to such an extent that it would be impossible for him to make a wrong choice. Others would not simplify the environment, but would limit the child in his relations to it by the exercise of authority, or by a direct appeal to his reason or moral sense. Still others would turn the child loose upon his environment. The exclusive use of any one of these methods would no doubt tend to arrest development. The better way is a judicious use of all—a use which can be made only in the light of the facts of the particular case. Between the extreme positions of selecting everything for the child and turning him loose upon his environment there is surely a means of reconciliation. Real freedom, real growth, cannot be secured by the use of either method alone, but must come by means of securing freedom within certain limits. No doubt there is a larger place for a selected environment during infancy than in childhood, just as there is a larger place for it in childhood than in youth or adult life; but even in the earliest years there is need of the development that comes from submission to authority and from learning to let some things alone.

An account of the differences that appear in the life of the child and that of the savage is not complete until it is recognized that the child is a more social creature than the savage. This is largely due to differences in natural and social environment. For long ages the savage was obliged to face nature with only the slightest means of protecting himself from her hostile forces. There was little opportunity under such conditions for the satisfaction of the social instinct. The protected life of the child in a highly developed society, the opportunities provided for play and the development of the social arts, unite in fostering the social spirit from the earliest years. When the child enters school he is ready to establish still broader social relations. In learning the art of living with his fellow-creatures in the school-

room, he becomes less self-centered. By means of co-operative action he loses for a time his individuality in that of the group, and in so doing gradually becomes conscious of a larger self than he had known before. To enlarge the self, to lay hold of its active forces, to see its possibilities, to establish relations between the life of the child and that of the race, are important functions of education. To this end the environment of the school, the curriculum, the methods of teaching, must all contribute. Through these agencies the child may be aided in acquiring a mastery of the finest of fine arts—the art of living.

KATHARINE E. DOPP.

THE UNIVERSITY OF CHICAGO.

## ACADEMIC AND PROFESSIONAL TRAINING OF TEACHERS.

### II.

THERE is another implication regarding the relation between subject-matter and corresponding method in the combination course, in the course composed chiefly of academic subjects and special methods, which will bear looking into; and that is the implication that method has not a content of its own which is derived from and applicable to all subject-matters. According to the view under criticism, you have, on the one hand, in the training course so many academic subjects which match up with subjects now being taught in the schools, and on the other hand you have an equal number of special methods corresponding. The academic subjects are supposed to give the content, the filling, to the mind of the student; the special methods are to aid him in readapting this content to the minds of prospective pupils. The academic subjects are there chiefly on sufferance, to make up for deficiencies in the scholastic training of students; and yet the special methods are taught apart from the corresponding subject-matters. It is a case of the Kantian dualism—content without form is blind, and form without content is empty. It creates a deadlock, under an assumed reciprocity. It marks time without getting anywhere.

The difficulty flows from the narrow and shortsighted assumption that the courses in a training school must simply reflect or match courses that are being taught in the schools. Acting on such an assumption, a training school would follow rather than lead in the educational procession. Instead of being the point in the whole educational system where pressing needs for improvement are most keenly reported, felt, interpreted, and even anticipated, where the means are at hand for working out and testing experimentally new and better programs and methods in response to these needs, thus becoming a center of helpful

influence and rational direction, such a training school tends to become a mere recruiting station for "the rank and file," who, like the British soldiers grimly characterized by Carlyle, "fight without knowledge of war," if not "without fear of death."

But a training school is surely more than a recruiting station. If it is fulfilling its function and justifying its existence, a training school is the place where naturally and as a matter of course the conscious direction of educational progress, the scientific working out and experimental testing of educational reforms, should be more active, critical, and effective than at any other point in the entire system; not because the training school is in any sense cut loose from the rest of the system, a favored spot where exotic ideals may bloom in luxuriance unmolested by the hard, practical conditions that obtain elsewhere, but because in the deepest educational sense it is bound up with the whole system, bound up with the intellectual and moral resources of its past and with the possibilities of its immediate future; because it is the system most conscious at this point of all its parts and of their relations, and of its life as a working whole. The ideal training school is a continual rebirth or renaissance of education. It is desirable, no doubt, that a training school should include what is called a "model school," where there can be displayed the best ways of doing the thing that has been done and is being done; but it is also desirable that it should include an experimental school which should aim to work out, test, and verify ways of doing still better things. Thus the training school becomes the point at which the whole educational system is most conscious of itself, the point at which it is explicitly engaged in educating itself.

All this carries with it the necessity of a conscious gathering up, of a concept, of the educational situation as a working whole, a *systematic* gathering up in the sense that, like physiology, it has to do with a system. This is method in the larger sense of the word—call it theory, philosophy, psychology, or history of education, or all combined, though I do not mean to imply that it would be desirable to ignore customary distinctions; method, not in the sense of an empty framework to be filled in with a more



or less alien content, but method in the sense of principles of construction, principles that are inherent in the materials themselves—the growing mind and the institutions and vocations of community life. Such a gathering up and studying of educational principles has a content, a subject-matter of its own, which is nothing less than education itself. In that respect it is an academic subject like political economy, for example, or chemistry. It is also the core of the training-school situation; not an afterthought, save in the sense that all thought is afterthought; not an external thing, save in the sense that the working use of principles, or concepts, make one more sensitive, discriminating, alive to things externally perceived; not formal, save in the sense that reconstructs, anticipates, more adequate and economical forms of organization.

It is plainly inconceivable that courses in educational theory should in any sense supersede courses in special methods and technique. On the contrary, the latter should find themselves freed and reinforced. The task of carrying the whole thing is lifted from courses in special methods and in technique, which now may become technical in the true sense of the term, points of application to, of contact with, the more immediate realities of teaching. They represent the academic and theoretical work focused upon the near view, and so in turn do they contribute to the perspective of the whole.

To sum up the matter as it appears from the point of view of this discussion: In addition to the inevitable courses in subject-matter and in special methods and technique in the training of teachers, there is a demand, growing out of the present conflict and confusion, for the more explicit recognition of two important principles, one of which looks to the development of the individual teacher, the other to the development of the whole educational situation.

1. The first of these principles is a direct contribution from the most advanced academic methods of training teachers now in vogue, methods which carry with them the implication that a student must first be a learner, an inquirer, an independent investigator, in some degree, before he is deemed qualified to

teach. If this contribution be accepted by the training school, it carries with it the practical corollary that students in the training school should be afforded ample opportunities to elect advanced academic courses in subjects for which they have a natural interest and sufficient qualification, and which are likely to give scope and direction to the inquiring, experimental, or constructive tendencies of the growing mind. Such opportunities, such electives, belong as much to a training school as clinics to a medical school, or moot courts to a law school, and for precisely the same reason, namely, that they afford intimate, first-hand experience in the fundamental realities and processes of the profession, which in the case of the training school are summed up in the process of learning; not learning in the scholastic sense of acquiring more information or mechanical expertness, but in the sense of developing latent capacities of thought and action through the exercise of these capacities. The graduate of a training school who has not had some recent first-hand experience in the most genuine forms of learning is no better off than the graduate of a medical school who has never witnessed an operation, or the graduate of a law school who has never taken part in a moot-court trial; in fact, he may be considerably worse off.

2. With reference to the whole educational situation there is becoming apparent a clearer recognition of the strategic position of the training school. It is difficult to see how a training school can justify its existence to its supporters if it is really nothing more than a trade school. Such a conception would inevitably react against those who would seem to be favored most by it, namely, the teachers themselves, by swelling the ranks of pattern-trained apprentices beyond the point of assimilation. Neither can a training school hope to receive more than a chance "social sanction" if it goes to the other extreme and proceeds to develop, on the basis of arbitrary, personal dicta, a detailed pedagogic program as a pretty complete reaction from established methods. Nor is a hand-to-mouth compromise between two such extremes desirable, or likely to receive "social sanction."

The training school is coming to occupy a strategic, a controlling position in educational affairs along with the development of education as an experimental social science. The training school is coming to be the laboratory of that science. As a laboratory, it sustains the same reciprocal relation to the more theoretical interests, on the one hand, and to the more immediately practical interests, on the other, that any scientific laboratory sustains—a laboratory of chemistry, say—to mathematics and theoretical chemistry, on the one hand, and to commercial and manufacturing interests, on the other.

There is a sense in which all practice is experimental, in so far as the carrying of ideas into effect involves an element of risk, of uncertainty. Again, practice is rarely completely satisfactory, even when it safely reaches the end proposed to itself. It would seem, in education, at least, as if the less uncertain, the less experimental, any form of practical procedure is, the more unsatisfactory as a means of true education it is likely to be; and, on the other hand, the more satisfactory and ideal some newly proposed form of procedure appears to be, the greater the element of uncertainty in putting it into effect. I will not try to illustrate this, for I believe the experience of almost any teacher would readily furnish illustrations. Now, the true laboratory begins wherever the uncertain, problematic points in everyday practice are reported, or sensed, most keenly; where they are interpreted, or diagnosed, most intelligently, that is, in the light of underlying principles; and where better ways of overcoming the difficulties are worked out as ideals most comprehensively, and not merely worked out as ideals, but *tested experimentally* under the most favorable conditions. All this, in the case of a laboratory of education, would naturally involve a theory of education with its psychological, ethical, and logical aspects. Moreover, what is perhaps more to the point, it would naturally be the locus of the training school; for it almost goes without saying that the place in the educational system or organism that is most alive to all phases of the educational situation, most alive to all tendencies in the educational movement, is surely the place where the best training in education is to be had, whether general or specialized.

Possibly this sounds like reasoning in a circle. Earlier in this paper I was maintaining that the training school is naturally the point in the educational system where reconstruction is going on in the most rapid and controlled way; and now I am saying that such a point is naturally the locus of the training school. Still, if these statements be true, I do not see that they can be other than complementary, or other than two aspects of the same truth. It is, after all, simply a question as to whether educators shall be educated by education; a question as to whether they shall be a conscious part of that reflection, prophecy, and verification, of that continual experiment, by which education, not without toil, pain, and conflict, perennially educates and renews itself.

WILLARD C. GORE.

THE UNIVERSITY OF CHICAGO  
School of Education.

## THE FOLKSONG IN MUSIC STUDY.

THERE is perhaps no field in the great realm of music which offers to the student more fascinating material for research than does the folksong. Springing from the very heart of the people, it is as truly and vividly expressive of race-character and race-history as are those myths which it so often clothes. The life of a people, its struggles and victories, its loves and hates, its joys and sorrows, is as securely preserved for us in its songs as is the fly in amber; for not only do we find the mass of the songs of every country devoted to its wars, its loves, and its drinking-bouts, but the labors of the people, their festivals and dances, as well as their myths and legends, claim place in these simple lyrics.

Chief among the charms of the folksong is its power to express race-characteristics. The Italian melody is always suave and graceful; the Russian has all the rudeness and pathos of the people from whom it springs; and even the indiscriminating hearer can readily distinguish between French and Scandinavian gaiety. No Tschaikowsky, no Grieg or Chopin, ever made us feel more keenly the wild sadness or the romantic fervor of his race than does the humble bard whose name even is lost to us.

These simple tunes, often of the greatest beauty, are the chosen material of the masters in music. The Scotch songs arranged by Beethoven; Schuman's "Two Grenadiers," with its great climax of the "Marseillaise;" the dramatic struggle of the French and Russian airs in Tschaikowsky's overture "1812;" Richard Strauss's Italian suite, with its humorous and charming use of the Neapolitan street-song, "Finiculi, finicula;" and, most modern of all, Humperdinck's delightful opera, "Hänsel and Gretel"—are familiar illustrations which show with what delight the great musician spends the richness of his art in setting these homely jewels.

Nor is the more modern musician's use of the folksong for the sake of its local coloring and the race-characteristics which

it expresses the most important of its functions. All more elaborate melodic forms may be said to be developments of this archaic type of tune, and both *Lied* and *aria* are its legitimate descendants. Furthermore, the symphonies of Haydn, Schubert, and Brahms contain many melodies which are either folksongs pure and simple or developments of these.

Much church music, even of the better and purer kind, is also indebted largely to the folksong. The music heard in most Protestant churches is too often direct adaptation from secular sources. The opera, the sentimental song, and the folksong have all been laid under contribution to such a degree that the average choir singer regards any tune joined to any hymn suitable to church service.

But the older churches—and especially those whose liturgical forms have given opportunity to the musician of taste and judgment, until finally a school of dignified and worthy music has grown up to be their ornament—have fostered the less formal religious songs of the people. The Lutheran church, which boasts a Bach and Mendelssohn, is not wanting in sacred folksongs, while the Catholic church, with all its great composers of masses, is most rich in these fine old traditional tunes. The Regensburg Cecilian movement, which has restored to familiar use the beautiful early music of the church, the Gregorian plain-song, and the masses of Palestrina and his contemporaries, has also encouraged the singing of these venerable melodies, which one generation has handed down to the next for centuries.

The naïve character of the folksong, its simplicity and directness, as well as the fact that it is the source from which so much of the best music is drawn, would seem to point to it as a proper and natural material for the teaching of singing to children.

An examination of the school music books of Germany, France, England, and the Scandinavian countries shows the universal recognition of this fact. The pedagogues who are responsible for most of the compilations of school music in use in America have to some extent followed the lead of their brethren overseas. Of late, however, there seems a growing inclination to abandon the folksong and have recourse to the more sophis-

ticated forms of music. This is doubtless natural enough. We are not a naïve people, and the naïveté of the folksong appeals to us perhaps less than it does to another race. Certainly it would be impossible to find in any other country school music books composed by one person from cover to cover, and such books may be found here in very extensive use.

Our own lack of musical background is probably responsible for this. The statement that Americans have no folksongs is not more true than the statement that Americans have no distinct racial characteristics. We are too conglomerate and too young for either, and we have therefore no national art. We are talented and clever, but as yet entirely imitative.

These seem to me excellent reasons for using as educational material this great mass of songs which have stood the test of time in other and older countries, where ideals are higher, and taste better, than with us.

The class of people's melodies to which belong such beautiful tunes as "Gott erhalte Franz, den Kaiser," by Haydn, the "Schwertlied," by von Weber, and "God Save the King," by Henry Carey, with which we are all familiar as "America," is, speaking from the purely musical point of view, the best. These songs are all folksongs, and are still works of art. Sung of all men in the lands where they were made, they still bear the mark of genius in their greater beauty of melody as in their greater expressiveness. And while they are a most dignified expression of the words, they still present the natural intervals, the compact form, and the simple rhythm which so well fit them for use in reading and writing of notes. At the same time, their naïve character seems most appropriate to their use with children, whose greatest charm—that of unconsciousness—so much of our education seems bent upon destroying.

I would not be understood as debarring the artistic song-form from the schoolroom. On the contrary, the children's songs of Schumann, Brahms, Taubert, and Reinecke, and later the simpler works of Schubert, Haydn, Mozart, Händel, Mendelssohn, and even Beethoven, should go hand in hand with the folksong. I should insist, however, upon these appearing in their original

and pure form, and not in those garbled arrangements and adaptations so frequently published. The simpler works of the great composers preserve to us many of the qualities of the folksong, nor is that direct and childlike spirit wanting in many works of the middle class, to be found in foreign music.

This is unfortunately not the case with the bulk of music produced by American composers. Here we find aspiration to a more highly developed art-form, but an undisguised consciousness of this form; or we find the simplicity of notation without simplicity of spirit. The composer seems too frequently to be asking his listeners, "Isn't this pretty?" or, "Isn't this pathetic?" or, worse still, "Isn't this cute?" The "cute" song seems to me the bane of American music.

The average teacher of music, while he recognizes certain of their advantages as material for his work, fails often to appreciate the real charm of folksongs, which is the greatest charm of all music; that is, its expressiveness. We see this in the deplorable practice, so common among schoolbook makers, of adapting any convenient words to these familiar tunes, regardless of the real meaning and significance of the words and music.

There is no denying that certain adaptations may be justified. Many foreign texts are untranslatable; many others are not worth translating, either because their content is foolish, or because it means nothing to an American child. Also, it is quite possible to find an English poem which fits the music more successfully than a translation can. This sort of adaptation, however, calls for taste and time and skill, which are not always to be relied upon in the adapter. Indeed, there is no "job" for which the 'prentice hand feels himself more fitted, and which he undertakes more complacently, than this most delicate and difficult one.

Hence such atrocities as the following: Schumann's plaint of the *Zigeunerbub* condemned to death has a simple, beautiful tune, but its text is properly thought inappropriate to the school-room. So the gypsy about to be hanged becomes, in the twinkling of an eye, a whistling plowboy, and nobody's feelings are hurt. Besides, praise be to the fine arts! we have a Schumann song.



Or here is the *Lohengrin* Wedding March. It is both beautiful and popular, but the original words are too sentimental for school use. Good! We make it forthwith into a patriotic song, with all its melting numbers, glorifying the "flag of the free."

Many an adapter, however, who would stop short of such deeds of violence to works of art would regard the folksong with less reverence.

Even the Germans, whose musical taste and knowledge are so much above our own, appear to regard many of their melodies as neutral in character.

But it seems to me that, if a tune has real beauty, it is because it expresses some emotion, some thought. Certainly, if the tune gives the impression of melancholy with one set of words, it cannot be expected to express joy with another set. This disregard of the quality of its expressiveness seems to me the greatest misuse of the folksong. I believe that only the teacher who studies it in its original form can make the best use of the folksong. When this is impossible, as in the case of some very old tunes, the quality of the tune should be most carefully considered before adapting it. A melody should not be used as a peg upon which to hang verses of possible meter, or its beauty will vanish.

I recall being taught as a small child a song about a duck who took her family of chickens to swim in the brook. An occasional refrain of "cluck! cluck!" was supposed to add piquancy to this ditty, but I remember to have still thought it a very stupid song. Years after, I came upon the tune with its original German words. This time it was a pretty tale of three knights who ride away to the wars, calling to their fair ladies as they pass through the gateway, "Ade! Ade!" It is considered a charming song, but, no matter how often I hear it, the "Ade" is never "Ade," but always "Cluck! cluck!"

There are, of course, many folksongs whose claim to beauty is very slender. Many of the German folksongs seem to me commonplace and uninteresting, but the large proportion has a certain plainness and lack of pretentiousness which entitle them to respect. There is also a large class of these melodies which are not suited to the wants of children, and, while they are naïve and

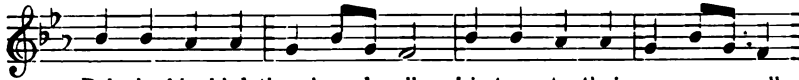
## ALL THE BIRDS HAVE COME AGAIN.

*Allegretto.*

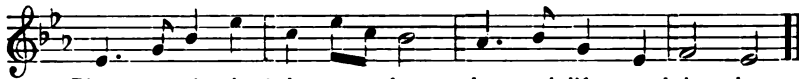
German Folksong.



{ All the birds have come a - gain, Come with joy - ous sing - ing; {  
 { Thro' the mead - ow and the wood Hear their voic - es ring - ing; }



Rob - in, bluebird, thrush, and all— Lis - ten to their mer - ry call;



Pleasant springtime's hap - py days Joy and life are bring - ing.

THE DAIRY MAIDS.<sup>1</sup>

Words Adapted.

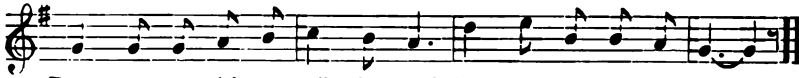
Traditional Tune.

*Andantino.*

Old English.



1. Eve - ning light on the pas - ture lands, twink - ling, twink - ling;
2. Cow bells ring - ing a sleep - y chime, tink - ling, tink - ling,



Down we go with our pails in hand, Ma - ry, Mol - ly, and I....

As we call o'er the mead - ow - thyme, Ma - ry, Mol - ly, and I....

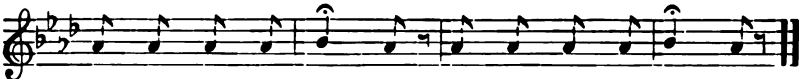
## SUR LE PONT D'AVIGNON.



Sur le pont d'Av - ig - non L'on y dans - e L'on y dans - e,



Sur le pont d'Av - ig - non Tout le monde y danse en ronde



Les pay sans font comme ça Et puis en - core comme ça.

<sup>1</sup> From *Modern Music Series*, Silver, Burdette & Co.

JUTLAND DANCING SONG.<sup>1</sup>*Allegro.*

Good eve-ning! good eve-ning! ye mer-ry danc-ers all! Good evening! good  
 eve - ning! ye peo - ple great and small. Ye dames and ye mas-ters, ye  
 young men and maid-ens, To mirth and to danc-ing my fid - dle doth call. Good  
 eve - ning! good eve - ning! ye mer - ry danc - ers all.  
 Tra la la la la la la la Tra la la la la la la la  
 Tra la la la la la la la Tra la la la la la.

DO-DO.<sup>2</sup>

Spanish Lullaby.

Little shoes are sold at the doorway of heaven, And to all the tattered little  
 an - gels are giv - en; Slumber, my dar - ling, slum-ber, my dar - ling,  
 Slum-ber, my dar-ling ba - by. Do - do, do - do, A - ve Ma-ria, do-do.

<sup>1</sup> HEINRICH REIMANN, *Internationale Volkslieder*.<sup>2</sup> STURGIS AND BLACE, *Songs of the Pyrénées*. Boston: A. P. Schmidt.

RUSSIAN BOAT-SONG.<sup>1</sup>

direct, express the thoughts and feelings of grown people. Still there are many which have always been sung by children and by generations of children, some of them in many different countries and tongues.

Among these I know none whose permanence seems more the result of beauty, charm, and a childlike unconsciousness than the German "Alle Vögel sind schon da," the French "Sur le pont d'Avignon," and the old English "Dairy Maids," which I print herewith. To these I have added three others which are less simple, though not less beautiful.

The Russian boat song, indeed, seems to me one of the most beautiful airs I know, and I wish I had been able to find a fitting translation for this most rare melody. Professor Bücher in his able *Arbeit und Rythmus* gives this as one of many examples of songs whose origin was undoubtedly the rhythmic motion suggested by the workman's occupation—in this case the measured dip and pull of the rower's oars.

With such material as this to choose from, one cannot but feel sure that the coming adapter and translator will be able to add much that is valuable to American school music.

THE UNIVERSITY OF CHICAGO  
School of Education.

ELEANOR SMITH.

<sup>1</sup> KARL BÜCHER, *Arbeit und Rythmus*, Leipzig.

## LITERATURE IN THE ELEMENTARY SCHOOL.

### II.

HE is the fortunate one among children who, like Dr. Holmes, tumbles about in a library in babyhood. He makes acquaintance with books as a matter of course, unconscious of any difficulty in the way. And if chance or an attractive binding or the allurements of a shelf beyond easy reach lead him to adventure beyond the bounds set by theorists as to children's development, the chances are that no harm is done. He will not persevere in reading a book from which he gets nothing, while from many a book presumably beyond his powers he gets a deal of good. The girl who at eight or nine reads all the child parts of *The Mill on the Floss*, and at ten turns from her doll to *Hamlet* and from *Hamlet* to her doll, unconscious of doing anything unusual in either case, and not pestered with questions as to the story of either book and her liking for it, is developing naturally enough. No one need worry about her. Very likely she will still play with dolls in her teens and read Robin Hood tales and the *Jungle Book* with keen pleasure when she is getting acquainted with George Meredith and declaring *The Ordeal of Richard Feverel* her favorite novel. A perfectly natural and healthy development in a child who has easy access to books is pretty sure to show such idiosyncrasies.

The conditions of school life substitute class work for this solitary browsing, and the control and guidance of a teacher for this almost untrammelled freedom. These two circumstances make necessary vastly more circumspection in the choice of literature, and materially limit the possibilities of accomplishment. We cannot even do with children in the schoolroom what we can do with a child at home. We may read Kingsley's *Greek Heroes* to a child of five and Bryant's *Odyssey* to a six- or seven-year-old with great contentment to both child and reader. But he had need be a brave man who should undertake just that

with a class of fifteen or twenty first-year children from all sorts of homes. We cannot possibly know a roomful of other people's children as we know the child or the little group of children of our own at home. We cannot choose so closely with an eye to the special needs of each individual when there are twenty to be taught together. We fall back inevitably on the stories that have been handed down from the childhood of the race and approved by children in all ages; and on such more or less modern stories and poems as most nearly approximate these in spirit and charm.

It is not hard to see what it is in the folklore, fairy-stories, and legends favored by children that makes them appeal so surely to the child's liking and at the same time fits them to the purposes of education. To begin with, they are pieces of human life, and children of six or seven are already deeply curious as to life. These stories, moreover, center the interest in human beings—and in human beings of definite character, strongly marked, and on the whole simple, so that in their main outlines the characters may be readily grasped by young children. And then they tell a story—and children are almost as fond of stories as their elders are, as anxious to have something doing, to feel that they are moving toward some natural goal. Further, the emotions involved in these stories are for the most part naïve, open, unsophisticated. And, finally, the morality is almost as simple and unshaded as the characters. Children in the main instinctively demand this, and are not likely to profit much from any presentation of emotions or morals in more complex form. They must live a good deal more before they are ready for the fine distinctions and the subtilties of good and evil in conduct. They must come to these sometime, indeed, if they are ever to know life sympathetically and deeply, but not now. In the meantime we can supply from the simpler classics material for the child's own transforming power to make over into his own substance—material for finer loves and juster hates, for more generous laughter and tears and nobler admiration.

It is the large childlikeness, the naïveté, the unconscious simplicity of the old tales that makes it so hard to find anything to

match them in literature of more modern origin. Schoolcraft's *Algic Researches*, which Longfellow drew on so largely for the materials used in *Hiawatha*, should perhaps be classed with the more primitive work. However that may be, we could do worse than to make use of some of the stories in it for the literature of the first two years. It is a pity they are buried under so forbidding a name and in a government publication. *Hiawatha* itself long ago won the hearts of children, and few who have seen it used in primary classes would question its title to a place in school work there. More would hesitate to make similar use of the *Jungle Book*. No doubt this book, like *Gulliver's Travels*, with the story it tells so fascinatingly, combines a satire on human nature and human institutions. This satire is sometimes subtle, sometimes palpable; but, unlike Swift's, it is never sardonic, hardly ever bitter, and, best of all, a child will never discover it. On the contrary, what the child feels is the sympathy with which the story is told, the humanness of the animals that makes fellowship with them so easy and natural, the charm of finding the familiar in the unfamiliar, and the never-failing interest of the incidents themselves, centering always in the boy Mowgli. And some children in school and out feel the beauty of the words and the fascination of the jungle, the forest. It is not easy to resist the conclusion that to keep this out of the schoolroom is to keep primary children out of their rights. Like *Robinson Crusoe*, though in subtler fashion, it appeals to the vagrant, errant impulses surviving, it may be, from the shadowy past of our forest ancestry; gives the freedom of forest and field to the spirit while the restless little feet are held in the schoolroom; and all the while it suggests that freedom goes, not with lawlessness, but with loyalty and obedience, and with kindness and justice. The Robin Hood story, too, with all its superficial outlawry, has the same core of honesty and fidelity, and a kindred charm of the woods. Humor brightens it and opens the child's vision to mirthful incongruities of boast and act, of expectation and fulfilment. In it a manly self-reliance and fair play go side by side with gratitude for a friend's help in need and a quick readiness to lend a hand. The individual and the

social virtues alike are there embodied in Robin and his faithful outlaws. It is only when incarnated that they can appeal with any force to children, but when incarnated they are capable of kindling in children ardor and fine emulation. *Robinson Crusoe* is another book that holds children now as it held us when we thumbed its leaves or listened while a dear voice read the story of the much-envied castaway. We did envy him, and we planned together to run away and find an unknown island in the woods we knew by heart. And children envy him now and plan to run away. But something blessedly interferes with their plans as with ours. And, without knowing it, they are getting, as we got, first lessons in the strange helplessness of the individual apart from his fellows, glimpses of the intricate interweaving of lives and generations and occupations. The sea that separates and binds together the races of men grows real to the imagination; the pictures in an old geography gain significance; and strange countries and customs are added to the little world already familiar.

The literature so far suggested for the earliest school years is altogether in the form of prose tales, except *Hiawatha*. If the child were to get only this, he would miss some things ill to be spared. Certain instincts that are awakened before the child can yet distinguish an articulate word, and that are capable of developing into sources of pleasure of a high and noble kind, would be ignored, and ignored to the impoverishment of all his life. I do not know whether the experimenters in child psychology have hit upon the time at which the child first develops susceptibility to pleasure from musical tone and rhythmic movement. For aught I know, this pleasure may mingle vaguely with the baby's earliest sense of comfort and warmth upon the mother's breast, or in her lap as she sings it to sleep. At all events, the baby very early gives signs of pleasure at any sound rhythmically uttered, and of greater pleasure when the sound is musical. The development of this early instinct should not be left to music alone. From the first, poetry should be called to the aid of music. If this has not been done at home, the school will find the instinct relatively dwarfed, and must therefore



make more persistent effort to call it out and train it into a larger and more intelligent life, while preserving jealously all its original spontaneity. Of course, this means not only that poems should form a part of the course throughout, but that they should be read or recited by the teacher with full consciousness of their poetic nature, full recognition in tone and movement that they are not mere words significant of ideas, but such words set to music that is significant of emotion.

The field for choice even in the earliest school years is by no means narrow. "Mother Goose" melodies are capital. Children are easily at home in that fantastic world where animals are very human and even dumb inanimate objects grow animate and speak. The images presented are simple and vivid, the stories tantalizingly brief, but satisfying the desire for action. And the rhythm is imperious. No child, left to itself, can fail to mark the beat in "Little Jack Horner," or "Little Boy Blue," or "Lady Bird, Lady Bird," or "Little Miss Muffet" — or in any one of the delightful company. No. 1 of Norton's "Heart of Oak" books offers a store of precious jingles for our use. Shakespeare can be drawn on for songs that will go on singing in mysterious beauty in child minds. Wordsworth has some simple and direct little out-of-door poems and poems of animal and bird life that hold children. Even some of his more subtly felt poems charm children by their music and an occasional simple and vivid image. And "Lucy Gray" once heard is demanded over and over. William Blake supplies a handful of lyrics for early use, Hood adds two or three, Tennyson maybe a score, never forgetting "The Brook." Emerson may be drawn on. Lowell gives us "The First Snowfall," and Whittier a group of poems that will not out of children's minds. Among these I should include "My Playmate," "The Witch's Daughter," "Telling the Bees," "The Pipes at Lucknow," and "In School Days," but most certainly not "The Barefoot Boy." The Cary sisters were too much given to moralizing, but they may add a very few to our chosen poems. Celia Thaxter must be included. One woman at least will never forget the haunting charm of the sea and the twilight and the loneliness of the gathering

storm that she first felt when at maybe ten years old she read Mrs. Thaxter's "The Sandpiper" — nor how all the joy in the sea tones and color and movement and loneliness that she had first learned from Mrs. Thaxter in childhood came over her when, a far-inlander by birth, she set foot on Appledore and White Island and climbed the lighthouse tower. George Macdonald has a few poems that children love, and Field likewise. Bryant and Holmes may contribute; and Mrs. Piatt, though scantily. Longfellow adds some shorter poems to *Hiawatha*; and Stevenson gives inexhaustible joy in *The Child's Garden*.

This cursory enumeration of poems easily accessible, and in one way or another adapted to use in the first few years of school life, will at once be understood to be merely suggestive. Long as it is, it is very incomplete. Each of us has his own memory of childish favorites, his own little group of poems tested by his own pleasure as a child, or by trial with groups of children in school and out since. No two groups will quite agree. No two teachers would be equally successful with any group of such poems. The teacher must be left great freedom of choice, but not the freedom of leaving out poetry altogether, nor, let us hope, freedom to use commonplace, mawkish, versified prose for poetry. Good nonsense verse is, on the contrary, legitimate for children as for adults. But to remain good it must be used sparingly. For daily sustenance the child-soul has a right to beauty and harmony, to true thought and serious poetic utterance.

Taking prose and poetry together, material enough has been suggested for three years. Possibly the poetry can hardly be confined to three. Certainly the poetic sources to be drawn from in the next few years remain largely the same: only, "as this temple waxes" and "the inward service of the mind and soul grows wide withal," we may draw more generously on the poets named and add to their number worthy compeers. A few ballads, such as "Sir Patrick Spens," "Edom o'Gordon," and some of the Robin Hood ballads, are in place in the sixth year and even earlier. Other Elizabethan songs besides Shakspeare's

may be chosen for sheer singing quality, for vivid image, and for imaginative lift. And these may be used anywhere from the fourth year on. The Cavalier poets, not wholly to be depended on, can nevertheless add here and there a noble lyric. And when we come nearer to our own time, to name the poets available for the schoolroom from the fourth year is almost to call the poet roll. Now, especially, when ideas of their own country and of their relation to it are beginning to gather definiteness in children's minds, our own poets are indispensable. Love clings to person and place, to paths daily trodden and familiar horizon lines. Our poets have been home lovers. The fragrance of our native earth is in their verse; and not skylark and nightingale, but bluebird and bobolink and mocking-bird, sing there. There we can name the trees that bend above us, and follow with contented eye the billowy grasses of meadow and prairie. Linger day by day with Whittier and Lowell and Bryant and Longfellow, with Lanier and Hayne and Riley, we grow to love the Merrimac and Bearcamp water, the Charles and its water meadows, the rocky New England shores and woodlands, southern forests and marshes, and homely inland fields and orchards. Wherever one of our poets has lived we are at home, and love of the land grows as our feet grow familiar with their paths and our eyes rest upon the hills and skies they loved. Love of country as an ideal is rooted deep in personal love of the land. Nor can we do without our poets' aid in developing love of the ideal spirit of our country. Our elder poets have long been recognized as prophets of the highest ideas the nation has stood for; and that the race of prophets is not dead, that the truest America is not left without a poetic voice, witness Mr. Moody's noble "Ode in Time of Hesitation," and his "On a Soldier Dead in the Philippines." These, as more subtle and difficult than most of the older verse, may better be kept for the latest elementary years, or even for the high school; but we must use them in their place, as we must use the "Concord Hymn," "Paul Revere's Ride," "Ichabod," "Old Ironsides," "Captain, My Captain," and the best of the *Biglow Papers* and the "Commemoration Ode," if boys and girls are to get their country and its history into their hearts as well as into their heads.

From the fourth year on, a more varied choice of prose literature also is possible. Church's *Stories from Homer*, his *Story of the Iliad* and *Story of the Odyssey*, and Kingsley's *Greek Heroes* make a natural step forward from folklore and simpler legend. These versions of the heroic stories that nourished the life of Greece seem to me beyond all comparison better than Hawthorne's. To reduce the heroes of Greek imagination and tradition to childish stature and mind, to make Persephone a child, to transform the great god Hermes to the fairy Quicksilver, and so on, is to make such havoc of the noble and serious life of Greece as we should make of Jewish life if we presented Joseph in Egypt and Moses on Sinai as mere children. Such changes distort the vision and make it permanently difficult to get a serious and true conception of a people. Greece counts for too much in all intelligent life to make one patient with such a travesty. And children, too, have a right to honest and serious treatment in such a matter. It will not, I hope, be looked upon as an inconsistency if I put *Gulliver's Travels* into the course here, where it will be read merely as a tale of fascinating adventure and its satirical and serious import wholly disregarded. Not even here would I put more than the first two parts. The temper of these is only satiric; the temper of the fourth part is sardonic, sinister. Children might not discover the contempt underlying the story of the Houyhnhnms, but in school it is safer to venture only on the whimsical and fantastic adventures among the Lilliputians and Brobdingnagians. Here, too, we may well use such a tale as *A Dog of Flanders*, with its direct and simple picture of the old man and the little child and the dog. It is pathetic, it is even bitter at times, but it is none the worse for its pathos, and the bitterness we need not dwell on so as to make it hurt. Children will pass it by to live in the beautiful comradeship of Nello and Patrasche, and to feel, however vaguely, something of Nello's wonder and worship of the great pictures at Antwerp, something of the meaning of genius. And if they see and resent the injustice and cruelty of some things in Nello and Patrasche's fate, what else could we wish for them? Our poetic literature of the far West is less rich than that of the

East and South and the middle West. We are more fortunate here in our prose. Such narrative as Parkman's in *The Oregon Trail* is well within the power of sixth-year boys and girls. They are captivated by its color, its movement, its vigor. It gives them a conception of the plains, of outdoor life and adventure, of manliness and daring and endurance, that they will not soon lose. It may well rouse their curiosity to intelligent questioning and give impetus to independent reading. Other outdoor books we must have here also, books that not alone quicken the eye and ear and make sensitive the touch, but kindle the inner vision and make the soul sensitive to the living beauty of the earth.

The last two years of the elementary course have troubles of their own. They are awkward years, years of widening curiosity and growing independence, of reverence and irreverence strangely mingled, of quickened allegiance to ideals and of restiveness under actual conditions. We need to move somewhat warily if we are now to help boys and girls through literature to a saner vision of life and a closer grasp of truth. They must have what will satisfy their growing desire for fulness of life, what will appease and make or keep healthy their keener curiosity as to human relations—the relation of individual to individual, and of the individual to society and the state. They must find healthy exercise for deepening powers of loyalty and admiration and reverence; for hearty laughter even and manly scorn. They must have what will help them to find their way to a new and better adjustment of themselves to life under a growing complexity of conditions. And they ought to have all this with the least possible direct reference to themselves, the least possible incitement to awkward self-consciousness.

It is evident that the novel, so helpful in the last high-school years, has no place here. It should be equally evident that such a poem as *Enoch Arden*, found in so many schools in the grammar grades, is wholly out of place. On the other hand, we may with perfect confidence make use of such a story as *Rab and His Friends*. The direct narrative, the objective form, the naturalness of the manner, the unexaggerated sincerity of feel-

ing with which the story is told, the reserved revelation of human love and suffering and sorrow, and the courage and the intelligent steadfast loyalty of Rab, make the story sound to the core. *The Man Without a Country* is a story that gives new meaning to home and patriotism and loyalty and real manliness and independence. If it bring a lump to the throat and a mist to the eyes, we can ignore them and be glad. Irving's *Sketch Book* and various Catskill tales and his *Knickerbocker History* give ample material for natural laughter and sympathy in a fresh open-air world. In many a poem Lowell's fine scorn for meanness, his unmasking of hypocritical pretense, his love of sincerity and plain goodness and kindness, his burning zeal for ideas, win him the attachment of boys and girls of ardent spirit, and make him their prophet. In verse and prose, too, whenever his foot touches the earth his strength is doubled. He brings us the ripple of Beaver Brook, the song of the bobolink and catbird, the sense of life in the very clod. It is a wholesome air and good to breathe. The homeliness of Whittier, his benignant and tender spirit, and his fiery championship of justice and mercy, make him a good companion. Longfellow's broad humanity and the beauty and sweetness of his verse, which have combined to make him so widely loved, insure him a place here. There are some lines of Lincoln's that make the heart beat and the spirit kindle with sacred enthusiasm. And there are sentences of the Declaration and of the Bill of Rights and Magna Charta that should be wrought into the very sinews of the boy and the girl.

Besides such literature as I have indicated, in the main of very recent date, there are two great domains of letters to which we may now turn for amplest satisfaction—Homer and Shakspeare. In them there is nothing lacking to our needs. They have fulness of life, amplitude of thought and action, nobleness of ideals, a large humanness of spirit, sanity of judgment, and greatness of expression. The mere story of the wanderings and toils of Odysseus fills the mind at first. Gradually, almost imperceptibly, his great-hearted endurance grows upon us, his courtesy, his manliness, his delicacy of spirit, his

largeness of mind, his steadfastness of faith, his love of home and wife and child, his obedience to the gods. And the world he traverses of wind and wave, of flower and tree and fountain, of seagirt rocky isle, hard nurse of heroes, of barren sea and starry heaven, of goodly men and women and the great gods of Olympus alike bravely facing hard decrees of fate—this world grows real, grows beautiful, becomes our own, gives breadth of vision and strength of heart. It is a tonic to the listless soul, a challenge to the brave. Shakspeare's world we can approach at only one or two points as yet, but here we find the stuff of life in full measure. Boys and girls may lose themselves in following high-hearted Cæsar to his doom, in watching the noble Brutus's blind struggle to check the irresistible onward movement of his world, and Antony's faulty but winning human spirit with its mingling of generous loyal love and politic self-seeking. If the work is made living, vital, they can hardly come from it without a deeper sense of the reality of the past, of its kinship to the present, and minds more alive to their responsibility for their acts, more conscious of the seriousness of the life in which they have to live and act. Or, if it is *The Merchant of Venice* they read, they must get a finer sense of gracious womanhood, of friendship and love and justice, of all that makes life seemly and noble.

It is a long way from "Mother Goose" melodies and *Cinderella* to the *Odyssey* and *Julius Cæsar* and *The Merchant of Venice*. The children of six or seven are now boys and girls on the verge of maturity, with life broadening immeasurably before them. If, as they have grown in stature and strength, they have come into contact with more and more of life in books in some such course as here suggested, the actual life before them must surely gain in breadth and dignity and beauty, in fulness of meaning.

J. ROSE COLBY.

ILLINOIS STATE NORMAL UNIVERSITY,  
Department of Literature.

## EDITORIAL.

---

### THE SCHOOL AND THE HOME.

A RECENT writer has said that "almost every social ill may be traced directly or indirectly to failures of the family in the more or less remote past. However attempts at alleviation are compelled to address themselves to other institutions, scientific social healing will aim to influence the individual by increasing the efficiency of the family."

As the school has assumed new responsibilities, as its aim has broadened to include the training of the whole child, as its social purpose has developed, it has awakened to the fact that, if it would accomplish the end that it desires, it must take definite account of the home in which the child lives, and must do its utmost to make that home more effective.

That the home is of fundamental importance in the social structure no one will deny. That its function in the community has changed to a great extent, and is changing in practice much more rapidly than in theory, admits of little doubt. That its efficiency has been impaired is feared by many.

The most superficial comparison of the home of today with that of a few generations ago will show certain marked differences. The great industrial changes of the century have transferred the centers of activity from the home to the factory. With all the gain that has resulted from this there has been distinct loss. The small household duties that were once performed by the children of the family were potent factors in their education, and these no longer fall to their share. Among the well-to-do the work of the household is done by employees, and among the poor the children are early sent from the home into productive labor. Barrie regrets this tendency in Scottish life when, in speaking of the introduction of looms, and of the advantages and disadvantages that this has brought, he says: "All the losses would be but a pebble in a sea of gain, were it not for this, that with so many of the family, young mothers among them, working in the factories, home life is not so beautiful as it was. So much of what is great in Scotland has sprung from the closeness of the family ties; it is there, I sometimes fear, that my country is being struck." The concentration of the population in cities has fostered social life, and the multiplicity of outside attractions has often left no room for social intercourse within the family. The diversity of interests that might be made an efficient factor in enriching the home life is often a means of impoverishing it. The ease of moving from one apartment to another, and the general restlessness of the times, has imparted a migratory character to our urban population that was unknown a generation ago.



As a result of these changes, among others, the influence of the home over the child, and its hold upon the family, have been weakened. Home is not so interesting a place as it was. A little girl lamented the other day that Friday had come, and there would be no school for three days, and "there is nothing to do at home." On the other hand, other places are more interesting than they were, and the temptation is great to spend more and more time away from home. Dr. Parkhurst analyzed the situation when he said that when he was a boy he was expected to be at home, unless there was some good reason why he should be somewhere else, but that now everyone expected to be somewhere else, unless there was some good reason why he should be at home. The fact that the child contributes so little, directly and consciously, to the well-being of the home in itself tends to render his love and appreciation less deep than it was in the days when each member of the household, of necessity, had his share in maintaining the family life. A home that lacks the element of permanence must always fail in large measure to elicit the devotion and love that belongs to the time when the homestead was passed down from generation to generation.

The failure of the home is not alone in its waning power over the children, but in a decreasing sense of responsibility on the part of the parents. The church has signified its willingness to superintend the religious life of the children; the school, seeing plainly the deficiencies of the home, has undertaken not only to provide ethical as well as intellectual training, but to care for the physical well-being of its charges; and the parent has too often delegated all responsibility to these institutions. He has failed to remember that his duty does not cease with the provision of a house for shelter, food to eat, and clothes to wear. He has forgotten that, wherever the specific training and teaching of the child is done, to him belongs the general control; and he alone, in the final analysis, is responsible for the growth of the child into a worthy citizen, an efficient social servant.

No one agency has the power to inspire the home to do all its legitimate work, to fulfil all its possibilities; but the school, with its intimate relation to the children, has an opportunity to help that it should not miss. The help can hardly be given, as has been suggested by some, by the refusal to do work which properly belongs to the home, if the home is signally failing to perform it. Nor is it possible to any great extent to suggest to parents that they are neglectful of duty. Intrusion into home affairs is often resented, and the teacher who would exert direct influence in this way must have unusual tact. But the attitude of the school toward the home has much influence. The home should be distinctly recognized as the primary institution. The question, "How can we help you to train your child?" should be more often asked than the common one, "How can you help us to train him?" The school, especially the secondary school, should see that it does not make such demands upon the time and strength of the pupils that there is no opportunity for home duties or for social life in the home.

The most effective service that the school can render the home is to introduce, as part of its curriculum, those studies that have to do with the home and with the industries that are carried on in it. This may be done as a study of food and its preparation, in connection with the cooking class; as a part of the work with the textile industries; as art applied to the furnishing and decoration of the house; as science, in the application of the principles of physics and chemistry to the ventilation and heating and lighting of the house; or as part of history, in tracing the development of the home from primitive dwellings; or as geography, in the study of the homes of other nations, and their modification by climatic and other conditions. Such work, if given in the right spirit, must inevitably tend to make the home a more interesting place to each child, and this interest will engender the desire to do something in the home; and the doing will lead to a better understanding of the meaning of the home, and a deeper love for it.

One other service can be rendered by the teacher that will give hope for the homes of the next generation. So far as we can give to our pupils high and pure ideals of home life, so far we shall have projected our influence into the future. This can be done not so much by direct suggestion as by the unconscious influence that is exerted when our own ideals are true and high.

ALICE PELOUBET NORTON.



# The Best TONIC

When you are all tired out, feel weak, sleep does not rest and the digestion and appetite are poor, there is no remedy so effective as **Horsford's Acid Phosphate**. It is a nerve food and a tonic that nourishes and strengthens the entire system. Insist on having

## **Horsford's Acid Phosphate**

If your druggist can't supply you we will send small bottle, prepaid, on receipt of 25 cents.

Rumford Chemical Works, Providence, R. I.



**Certificate  
OF AN  
Eminent  
CHEMIST.**

**I HAVE MADE A CAREFUL  
CHEMICAL ANALYSIS OF**

# ***Sozodont***

*for the Teeth,*  
**AND FIND NOTHING INJURIOUS  
OR OBJECTIONABLE IN ITS COMPO-  
SITION.**

*Julius F. Pohl, M.D.  
Analytical Chemist*


**FOR TWO SCORE YEARS AND TEN**

Genteel Americans have cared for  
their teeth with no fear of Acid,  
Grit or other injurious substances

BY THE USE OF

# **SOZODONT**

# MENNEN'S



**BORATED  
TALCUM**

## **TOILET POWDER**

DELIGHTFUL AFTER BATHING, A LUXURY AFTER SHAVING  
**Beautifies and Preserves the Complexion.**

A positive relief for PRICKLY HEAT, CHAFING and SUNBURN, and all afflictions of the skin. For sore, blistered and perspiring feet it has no equal. Removes all odor of perspiration. Get MENNEN'S (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 50 cents. AVOID HARMFUL Imitations. (Sample free).  
GERHARD MENNEN CO., Newark, N. J.

Something  
New

**Mennen's Violet Talcum**

Something  
Exquisite

Dust, dirt,  
and germs  
are best  
removed  
from floors  
by first  
sweeping  
with a  
cloth-cov-  
ered broom  
moistened  
with water  
containing  
just a little  
Platt's  
Chlorides.



***Platt's Chlorides.***  
The Odorless Disinfectant.

# GRAND SUMMER CRUISES

BY THE HAMBURG-AMERICAN LINE.

## to the Land of the MIDNIGHT SUN

### NORWAY-NORTHCAPE-SPITZBERGEN

To the

# Baltic Sea

and the Principal  
Cities of

# Norway Sweden Russia and Denmark

These delightful and  
health-giving cruises,  
upon the palatial twin-  
screw steamships

**Prinzessin  
Victoria Luise and  
Auguste Victoria**  
are unsurpassed.



### First Cruise

DURATION 17 DAYS.  
Rates, \$162.50 upward.

To Norway and the North  
Cape, leaving Hamburg June 6,  
1903, by cruising steamer PRIN-  
ZESSIN VICTORIA LUISE.

### Second Cruise

DURATION 22 DAYS.  
Rates, \$150.00 upward.

To Norway, the North Cape,  
and Spitzbergen, leaving New  
York June 18, 1903, by steamer  
AUGUSTE VICTORIA, but cruise  
begins at Hamburg July 1st.

### Third Cruise

DURATION 16 DAYS.  
Rates, \$162.50 upward.

To Norway and the North  
Cape, leaving Hamburg July 8,  
1903, by cruising steamer PRIN-  
ZESSIN VICTORIA LUISE.

### Fourth Cruise

DURATION 22 DAYS.  
Rates, \$200.00 upward.

To Norway, the North Cape,  
and Spitzbergen, by twin-screw  
cruising steamer PRINZESSIN VIC-  
TORIA LUISE leaving Hamburg  
July 28, 1903.

### Fifth Cruise

DURATION 23 DAYS.  
Rates, \$200.00 upward.

To Norway, Sweden, Rus-  
sia, and Denmark, by the twin-  
screw cruising steamer PRINZESSIN  
VICTORIA LUISE, leaving Ham-  
burg August 23, 1903.

For dates of departure to and from New York by the Hamburg-American Line's twin-screw express and passenger steamers, in connection with above cruises, see regular Transatlantic Sailing List. Through rates quoted on demand. Special pamphlets, containing full descriptions of the above trips, will be sent upon application to the

## HAMBURG-AMERICAN LINE

35-37 Broadway, New York; 1229 Walnut Street, Philadelphia; 159 Randolph Street, Chicago; 70 State Street, Boston; 106 North Broadway, St. Louis; 401 California Street, San Francisco; 116 Euclid Avenue, Cleveland, Ohio.

*Kiely's* COCOA AND CHOCOLATE

As skillfully prepared, pure and delicious as

*Kiely's* CANDY

THE SAME MAKERS  
THE SAME EXCELLENCE



# Dr. Deimel

(LINEN-MESH)

## Underwear

Discomfort and irritation are unknown to wearers of this underclothing. It is the greatest "dress reform" of the age.

*Booklet telling all about it, and samples of Linen-Mesh, mailed free, on request.*

**The Deimel Linen Mesh Co.**

(Originators of Linen-Mesh)

Dept. O. 53—491 Broadway, New York

|                                |                          |
|--------------------------------|--------------------------|
| SAN FRANCISCO, CAL., . . . . . | 111 Montgomery St.       |
| WASHINGTON, D. C., . . . . .   | 1313 F. Street           |
| BROOKLYN, N. Y., . . . . .     | 510 Fulton St.           |
| MONTREAL, CAN., . . . . .      | 2202 St. Catherine St.   |
| LONDON, W. C., ENG., . . . . . | 83 Strand (Cecil Hotel). |

RIDE A COCK-HORSE TO BANBURY CROSS,  
TO SEE A FINE LADY UPON A WHITE HORSE,  
RINGS ON HER FINGERS, AND BELLS ON HER TOES.  
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME  
TO HER GLAD INFANT, THE WHILE KEEPING TIME;  
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN  
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.  
THROUGH  
MRS. WINSLOW'S SOOTHING SYRUP  
OVER FIFTY YEARS SOLD  
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD.

**OCCUPANTS 200 YEARS OLD**  
in a 300-Year-Old Building: •

**Johann Maria Farina**

Sternengasse 9-11 in Köln.

**9-11 (Cologne) 9-11**



**9-11** Eau de Cologne is an invigorating, refreshing PERFUME. is the GENUINE EAU DE COLOGNE.

INSIST on 9-11 Cologne and TAKE NO OTHER.  
Import office, 1-3 Ann Street, New York.

# ANGELUS PIANO PLAYER



**W**HAT more exquisite enjoyment than the music you can produce from your own piano—if you have an Angelus? Ever since 1897 this most remarkable instrument has brought unbounded pleasure to thousands of persons to whom music in the home was a rarity. Now, with the aid of an Angelus, you can play on your own piano anything you like—the dear old songs, the popular music of the day, or the classical compositions. Any or all of these are within your scope, and you do not need to know one note of music from another, for the Angelus reads the notes and strikes the proper keys for you.

The expression devices are so very ingenious and complete that you can obtain effects equal to the best pianists—the delicate shading, the phrasing, the accenting of notes or chords, the sustaining or emphasizing of the theme or melody while subduing the accompaniment. The sweet-toned reeds in the style 66 are a most delightful feature. With these you can enhance to a marked degree the beauty of many compositions.

We put the question straight to you—why don't you buy an Angelus and make your piano worth something to you as a musical instrument? Price only \$250.00.

OUR HANDSOME NEW BOOKLET WILL BE SENT UPON APPLICATION.

Baltimore, Juelg & Co.  
Boston, C. C. Harvey & Co.  
Chicago, Geo. P. Bent.  
Cincinnati, The W. C. Woodmansee Piano Co.  
Cleveland, J. T. Wamelink & Sons' Piano Co.  
Denver, Knight-Locke Piano Co.  
Galveston, Thomas Goggan & Bro.  
Kansas City, Carl Hoffman Music Co.  
Los Angeles, The Bartlett Music Co.  
Minneapolis, Foster and Waldo.  
New Orleans, Junius Hart-Piano House,  
New York, John Wanamaker.  
Omaha, A. Hospe Company.  
Philadelphia, John Wanamaker.  
Pittsburg, S. Hamilton.  
St. Louis, The Estey Co.  
San Francisco, Sherman, Clay & Co.  
Washington, Juelg & Co.  
And other local agencies throughout the country.  
J. Herbert Marshall, Regent House, Regent St., London.

## The Wilcox & White Co.

Main Offices and Factory, MERIDEN, CONN., U. S. A.

# ORCHESTRA



Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, &c. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog, Illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.  
The World's Largest Music House. Sells "Everything Known in Music."

## PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also rights at \$125. A magnificent fully equal to many \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

## FROM LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



## Rare Old Violins

Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of all the instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.

## 4 Trains a Day

via the

## MONON ROUTE

(CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY)

and C. H. & D. Ry.

## Only 8 Hours

from

## CHICAGO

to

## CINCINNATI

BY DAY, Parlor and Dining Cars.

BY NIGHT, Palace Sleeping and Compartment Cars

CHAS. H. ROCKWELL,  
Traffic Manager,  
200 Custom House Place,

FRANK J. REED,  
Gen. Pass. Agt.,  
CHICAGO.





Forty years ago the school-teacher had to get along as best he could with foreign-made pencils; now things are changed, and he has the privilege of using

## Dixon's American Graphite Pencils

in all the schools under his charge.

These pencils are not the result of an inspiration, but are the product of much care, thought, and study in order to provide just the right kind of a pencil for the many kinds of educational work.

They are used in all the leading scientific and technical schools in the country, and are recommended by the drawing professors. They have strength and durability of lead, combined with absolute smoothness and accuracy in grading. Send for illustrated color catalogue. It will help you.

**JOSEPH DIXON CRUCIBLE COMPANY**  
JERSEY CITY, N. J.



THE most artistic and durable color effects on shingles are produced with Shingletint, which is a scientific combination of linseed oil, coloring matter, creosote, and the necessary drying agents.

Among the many shingle stains offered Shingletint is conspicuous not only for its superiority, but because it can be called for by its distinctive name, thus offering the consumer protection against inferior goods offered for the same purpose.

When buying Shingle Stains it will be worth your while to ignore the "just as good" argument and insist upon Shingletint.

STAINED WOODS AND DESCRIPTIVE LITERATURE SENT FREE UPON REQUEST.

## BERRY BROTHERS, Limited,

Varnish Manufacturers,

NEW YORK PHILADELPHIA CHICAGO ST. LOUIS  
BOSTON BALTIMORE CINCINNATI SAN FRANCISCO  
Factory and Main Office, DETROIT.



"Of all inventions, the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species."—MACAULEY



### PERFECTION IN TRANSPORTATION

IS FURNISHED BY THE

### CHICAGO & ALTON RAILWAY

The heaviest steel rails, laid on a roadbed of crushed rock, make its tracks the smoothest. Over this dustless highway are run the most palatial trains in the world—the acme of luxury and comfort.


AMERICA'S MOST POPULAR RAILWAY—JUSTLY TERMED

"THE ONLY WAY"

BETWEEN

Chicago, St. Louis, Kansas City and Peoria.

GEO. J. CHARLTON, Gen. Pas. Agt., Chicago, Ill.



All over the civilized world  
THE IMPROVED  
**BOSTON GARTER**  
IS KNOWN AND WORN  
Every Pair Warranted  
The Name is stamped on every loop—  
The *Velvet Grip* CUSHION BUTTON CLASP  
Lies flat to the leg—never Slips, Tears nor Unfastens  
ALWAYS EASY  
GEO. FROST CO., Makers, Boston, Mass., U. S. A.

Send 50c. for Silk, 25c. for Cotton, Sample Pair.

**REFUSE ALL SUBSTITUTES**



This is where  
the Health Food  
Idea originated

The NURSERY  
OF HEALTH  
FOOD IDEAS



#### THE NEW MAIN BUILDING OF THE BATTLE CREEK SANITARIUM

Is 550 feet long, the rear extensions aggregate five hundred feet more. It is five and six stories high, fire-proof, made of brick, stone and iron. There is a sun parlor, and separate bathing buildings for men and women. It has facilities for treating one thousand patients—as many as could be treated in the old main building and hospital, which were destroyed by fire Feb. 18, 1902.

THE MOST COMPLETE AND BEST EQUIPPED INSTITUTION OF ITS KIND IN THE WORLD

## *The Battle Creek Sanitarium Food Idea Is the Health Food Idea to-day*

WE ARE THE ORIGINATORS

Do not buy so-called health foods simply because they are made in Battle Creek. Remember, the **genuine** bear the name of the Battle Creek Sanitarium Food Co., or the Sanitas Nut Food Co., Ltd. If your grocer does not keep them, write to us.

**Why buy poor imitations when the real health foods cost no more?**

### INVALIDS—Attention DIETETIC DEPARTMENT.

We announce the opening of a Special Correspondence Department for the benefit of invalids, dyspeptics, and those suffering from diabetes, rheumatism, and other maladies requiring careful regulation of the diet. If you will fill out the coupon below a blank will be sent you, which, after filling out, you will mail to us. This statement of your dietetic needs will be given attention by a member of our Medical Consulting Staff.

More than one hundred thousand former invalids will testify to benefits unforget, a return to health, the natural result of nature's remedy, pure food.

Cut out Coupon and mail to us. No charge for advice.

**Your Health** will be improved by the continued use of our foods, which contain every element necessary to man, woman or child. There is as much chance for improvement in foods as there is in ice-cream freezers or threshing machines. Why not try our new

#### Twentieth Century Diet?

You will like the new food, and your palate, your stomach and your pocket-book will be in sympathy with it, even if your mind is prejudiced before having tried it.

### Free—A Brochure—Free

On the Battle Creek Sanitarium **FOOD IDEA** will be mailed to you free if you will send coupon with name and address plainly written. It will give you the whys and wherefores of our Pure Food Idea, the result of thirty years' study of the food questions. **Mail to-day.**

CUT OUT COUPON, SIGN AND MAIL TO-DAY TO

THE BATTLE CREEK  
BATTLE CREEK, MICH.

**Sanitarium**  
CO. LTD.

BATTLE CREEK,  
MICH.

THE BATTLE CREEK SANITARIUM CO., LTD.  
BATTLE CREEK, MICH.  
Gentlemen:—Please send me, free of charge, your Brochure on Battle Creek Sanitarium Food Idea.

Name \_\_\_\_\_  
Town \_\_\_\_\_  
State \_\_\_\_\_  
COUPON 20

Name \_\_\_\_\_ Town \_\_\_\_\_ State \_\_\_\_\_ COUPON 20

## Perfect Food means Perfect Health

Perfect health means bright, sparkling eyes, a clear complexion, a sweet breath, sound white teeth, an active brain and a symmetrical body.

### SHREDDED WHEAT BISCUIT

is a perfect food because it is complete in itself for the perfect nourishment of the whole body. (Read that statement again.) *Shredded Whole Wheat Biscuit is made in the most hygienic Food Laboratory in the world.*

The wheat is thoroughly cooked, and spun out into porous shreds and is, therefore, naturally light and short without the use of yeast, baking powders, fats or chemicals of any kind. It is crisp and compels the teeth to perform their natural exercise. This means perfect digestion, perfect health and relief from constipation.

Sold by all Grocers. Send for "The Vital Question" (Cook Book illustrated in colors) FREE. Address

**THE NATURAL FOOD CO.,**  
NIAGARA FALLS, N. Y.



## OUTING SPOTS IN THE NORTHWEST

There are many places in the country of the Northern Pacific, some inexpensive, others better and more expensive, where one can spend the summer days pleasantly and healthfully. Among these are Walker, in the Leech Lake country, and Detroit and Battle Lake in the Lake Park region in Minnesota; Eaton's ranch, near Medora, N. D.; Hunter's Hot Springs in the Yellowstone valley, and Missoula and the Bitter-Root valley, in Montana; Lakes Pend d'Oreille and Cour d'Alene, Idaho; North Yakima in eastern Washington, and Green River Hot Springs in the Cascades; Tacoma, Seattle, Port Townsend, Port Angeles, and Victoria on Puget Sound, and many places along the Columbia river and on the Pacific Ocean from Portland as a center.

Those east of the Mississippi who wish a decided change should go to the Rockies or the Puget Sound and Columbia river and seacoast country. We can only hint at these things here, but write us, giving particulars as near as you can, and we will try to give you the needed information to enable you to find what you want. And don't forget that Yellowstone Park is the chief of all tourist shrines.

Send to F. H. FOGARTY, General Agent, 208 Clark St., Chicago, or CHAS. S. FEE, General Passenger Agent, St. Paul, Minn., for "WONDERLAND 1903." You need it in your business.

The universal Perfume  
for the Handkerchief  
Toilet and Bath.



Be sure  
you get the  
genuine.

**MURRAY & LANMAN'S**  
**FLORIDA WATER.**  
Refuse all substitutes.

**SUFFERERS FROM**  
**DYSPEPSIA AND OTHER**  
**STOMACH TROUBLES**  
Can Find Quick Relief by Using

# Glycozone

an **absolutely harmless** germicide.  
It subdues the inflammation of the  
mucous membrane of the stomach,  
thus removing the cause of the disease,  
and effects a cure.  
For any stomach trouble it will do  
good and generally cure.  
Used and recommended by leading  
physicians.

*Sold by leading druggists.*

**FREE** I will send by mail on receipt of  
20c., to cover **actual postage**, a  
liberal sample, that will prove the claims I  
make to your entire satisfaction. This prepara-  
tion cannot harm you, and in most cases gives  
wonderful results. Address

*Prof. Charles Harchant*  
59 W. Prince St., **New York.**

**Copy Your Letter While You Write**  
BY USING THE  
**CARBON LETTER TAB**  
*Letter Copying Made Cheaper, Cleaner, and More Convenient*

100 Letters and 100 Copies in Each Book. Bound in Board  
Covers with Carbon, Ready for Use

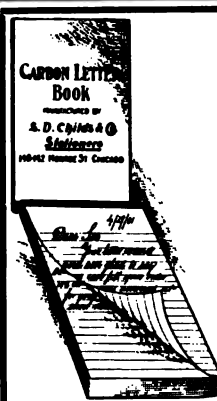
|                                              |               |
|----------------------------------------------|---------------|
| <b>Letter Size</b> (8½ x 11), Ruled or Plain | <b>\$0.75</b> |
| <b>Note Size</b> (6 x 9½), Ruled or Plain    | <b>.50</b>    |

*Sent postpaid on receipt of price*

**S. D. CHILDS & CO.**  
Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago



**IT DOES GOOD WORK** for a longer time  
**IT DOES MORE WORK** all the time

*The Denmore*  
**The Denmore**  
**Does More**

Denmore Typewriter Company  
309 Broadway New York



## A QUAKER CITY LANDMARK

More than 150 Smith Premier Typewriters are used by the City Departments having Offices in this Building.

Philadelphia City Hall  
550 feet in height

ILLUSTRATED  
CATALOGUE  
FREE.



SPRINGFIELD  
MASS.  
U.S.A.

THE SMITH PREMIER TYPEWRITER CO.

**Jaeger**  
PURE WOOL UNDERWEAR  
Protects Against Temperature Changes.

The Standard Sanitary Underwear for Men, Women and Children.

ALL WEIGHTS FOR ALL WANTS

Endorsed by Leading Physicians.

Also various JAEGER Novelties and Specialties.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 306 Fifth Ave., 157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

SEW THIS  
DEVICE  
IN YOUR  
COAT  
SLEEVE



PAT. DEC. 3, 1898.

Put an ordinary collar button in the rear or center button hole of the cuff, slide it into the front circular opening, — push it back to regulate the Cuff—an inch or two or simply a white edge can be shown.

THE CUFF WILL STAY WHERE YOU PUT IT.

You take your coat off and hang it up, the Cuffs will require no attention until they need laundering. One pair for every coat you own and happiness will be yours for a dime. Price 10cts. a pair or 50cts. for 6 pairs, by mail, postpaid. Address,

WOODMAN CO., Box 2872, Boston, Mass.



Put your  
**Links**  
into your  
**Cuffs**  
with the

**EARL BUTTONER**

A practical device which saves time and temper. Used and endorsed by thousands. Nickel, 10 cents; Sterling Silver, 50 cents. Sent on receipt of price.

ALPHA MFG. CO., 151 Milk Street, BOSTON, MASS.



What is "TIP-TOP"?  
Daus' **TIP-TOP?**

**TO PROVE**

that Daus' "Tip-Top" Duplicator is the best, simplest, and cheapest device for making

100 copies from Pen-written and 50 copies from Typewritten original

we are willing to send a complete "Duplicator" without deposit on 10 days' trial.

No mechanism to get out of order, no washing, no press, no printer's ink. The product of 23 years' experience in Duplicators. Price for complete apparatus, size No. 1, \$7.50, subject to the trade discount of 33 1/3 per cent., or \$5.00 net.

FELIX C. DAUS DUPLICATOR CO., Daus Bldg., 111 John St., New York

# Photographic Perfection

is attained by making  
your negatives on

**Anso:** *the new Daylight  
Loading Film*

and your prints on

**Cyko:** *the Paper that Prints  
at Night*

*ANSCO and CYKO have no peers  
in Keeping Quality & in Latitude  
of Exposure and Development*

*CYKO Manual and ANSCO Booklet sent on application*

*The*  
**Anthony & Scovill  
Co.**

122-124 Fifth Avenue, NEW YORK  
Atlas Block, CHICAGO

THE BEST  
SEND FOR CATALOGUE

FIFTY  
STYLES

TRADE MARK  
REGISTERED

PAUL E. WIRT  
FOUNTAIN PEN  
ALL  
DEALERS OR ADDRESS BLOOMSBURG, PA.

**W**HY not use a clean Fountain  
Pen, one that will write and  
write always, without skipping,  
blotting, or scratching?

The above Fountain Pen is and  
has been sold on its merits all over  
the world for sixteen years, and is  
unconditionally guaranteed.



THE EARLIEST  
HAMMOND  
DOES BETTER WORK  
THAN THE NEWEST  
MACHINE OF ANY  
OTHER MAKE

# The Hammond

THE TYPEWRITER OF THE TWO HEMISPHERES

**The only polyglot** using on the same machine,  
one hundred type shuttles, in twenty-six languages, in-  
stantly interchangeable.

**An indestructible machine.** Will last  
generations and outlive ten type-bar machines. Writes  
like print—prints like writing.

**The best manifolder.** The one machine  
producing perfect and permanent alignment with uni-  
form impression.



**The Hammond  
Typewriter  
Company**

69th to 70th Street, East River

New York, N. Y.





"THE NAME IS EVERYTHING."

# Esterbrook

on a pen is an absolute  
guarantee of its excellence

Inflexible No. 322. An  
Accountant's Pen. Fine  
and Firm Points.  
Over 150 varieties of  
other styles to suit  
every purpose. All  
stationers have them.  
Accept no substitute.



THE ESTERBROOK STEEL PEN CO.  
Works, Camden, N. J. 26 John Street, N. Y.

## The Light Touch



tells that it is a  
**Remington**

Remington Typewriter Company  
327 Broadway, New York

## The SUN Typewriter No. 2



Type Bar Machine  
Visible Writing  
Highest Speed  
Manifolding

Most Perfect Work of All  
The Only High Grade Writing Ma-  
chine Sold at a Reasonable Price

A Revelation

Price only **\$40.00** to introduce it

INVESTIGATE

**Sun Typewriter Co.**  
239 Broadway, New York

## SOME FACTS ABOUT TYPEWRITERS

Great progress has been made in building typewriters in the last three years, greater advances than in all the time previous. Years of experience have shown what was valuable and desirable and what should be sacrificed. Some typewriters do good work and are durable, yet are hard to operate and are cumbersome; others are too complicated and easily get out of order, do not keep alignment, etc.

Operators who have used **THE FOX TYPEWRITER** are unanimous in agreeing that it combines more desirable features than any writing machine yet produced. It is a basket type machine, with ball bearing carriage, two oz. key tension, half-inch key dip, aluminum finger levers with individual tension, adjustable type-bars—insuring perfect alignment, even after years of service, line lock, automatic line spacer, and automatic ribbon movement, combining the features that give durability with the lightest touch, easiest action, and most simple construction.

Our 1903 catalogue tells all about it, and will be sent for the asking. Our free trial plan enables anyone, anywhere, to try "THE FOX" for ten days. Write us today about it.

**FOX TYPEWRITER CO., Ltd.,**  
560-570 Front Street GRAND RAPIDS, MICH.

# The Summer Quarter of The University of Chicago

---

*Affords special opportunity for  
study in all Schools and Colleges*

THE FIRST TERM, JUNE 17TH TO JULY 24TH

THE SECOND TERM, JULY 25TH TO SEPTEMBER 3D

*Instruction will be given in 1903 in*

The Colleges of Arts, of Literature, of Science, of  
Commerce and Administration

The Graduate School of Arts and Literature

The Ogden Graduate School of Science

The Law School

The School of Medicine

The Divinity School

The School of Education

A circular of information will be sent on application to

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

Established 1857

Incorporated 1889



## The Penoyer

(Between Chicago and Milwaukee on  
C. & N. W. Ry.)

**KENOSHA, WISCONSIN.**

### A Health-Resort; A Rest-Cure

of the highest grade, conducted upon a most liberal scale, and affording every facility for the successful treatment of chronic diseases. Beautiful grounds (100 acres) with half mile Lake Michigan frontage. Cool summers; no malaria.

For illustrated prospectus address

**N. A. PENNOYER, M.D., Mgr.**

**Chicago Office, 70 State St.**

Dr. Penoyer's hours 2 to 4 Tuesdays.

TELEPHONE CENTRAL 500

# ALL'S WELL



## WHEN

# CARTER'S INK

## IS IN THE INK WELL

## The "A-A" Line

Stands for Fountain-  
Pen Comfort and  
up-to-dateness

**A**BOUT as sensible  
merely to pray that  
Mt. Pelee instantly  
subside as to hope to avoid  
ink-stained fingers if in writ-  
ing with or in opening your  
Fountain Pen the hand comes  
in contact with the ink joint,  
as happens in the "has been"  
pens.

A. A. Waterman & Co.  
(note the initials) make the  
Middle-Joint "Modern," and  
guarantee it unconditionally.

**A. A. WATERMAN & CO.**  
Dept. G, 22 Thames St., NEW YORK

*Compartment Sleepers*  
*Standard Open Sleepers*  
*Palace Parlor Cars*  
*Table d'hote Diners*  
*Luxurious Day Coaches*

Are some of the many features  
of a trip over the

## BIG FOUR ROUTE

**CHICAGO TO  
INDIANAPOLIS  
CINCINNATI  
LOUISVILLE  
AND SOUTH**

Ask for Tickets via the "Big Four."

**J. C. TUCKER, G. N. A.,**  
238 Clark St., Chicago.





## The Joy of Living

Is known only to those who have ABUNDANT HEALTH. There is a simple and pleasant way of gaining and maintaining health.

### **Pabst Malt Extract** The Best Tonic

is an agreeable tonic, whether taken at meals or with a cracker between meals, and its constructive powers are very great — it invigorates and recuperates, and without subsequent depression. There are thousands who take a glass of "Best" Tonic every night before retiring and thereby insure calm, refreshing sleep. Sold and recommended by leading druggists.

\$3000.<sup>00</sup>/<sub>100</sub>

Rochester, N.Y. Aug. 1 1902

## Bausch & Lomb Lenses and Shutters

SOLD ROUND THE WORLD

Pay to The Best Photographers in the World  
Three Thousand <sup>00</sup>/<sub>100</sub> Dollars

NOTICE! The amount of this check will be placed at the disposal of competent judges to be awarded for the best photographs made with Bausch & Lomb Lenses and Shutters submitted for judgment on or before January 1, 1903. Classes for all kinds of work and for Kodak, Premo, Poco and other hand cameras with B. & L. Lenses being provided.

Bausch & Lomb Optical Co

ROCHESTER, N. Y.

Who will send full information on request.

## Library Smoking Cars

WE have them on all of our fast trains  
out of Chicago. Buffet, writing desk,  
card tables, easy chairs, all the periodicals,  
everything to make one comfortable.

We publish two books, "Colorado" and "California,"  
72 pages. Informative, beautifully illustrated, and  
with good maps. They are really works of art. Price  
six cents each in postage. Send for  
them *to-day* while you  
think of it.

Burlington  
Route

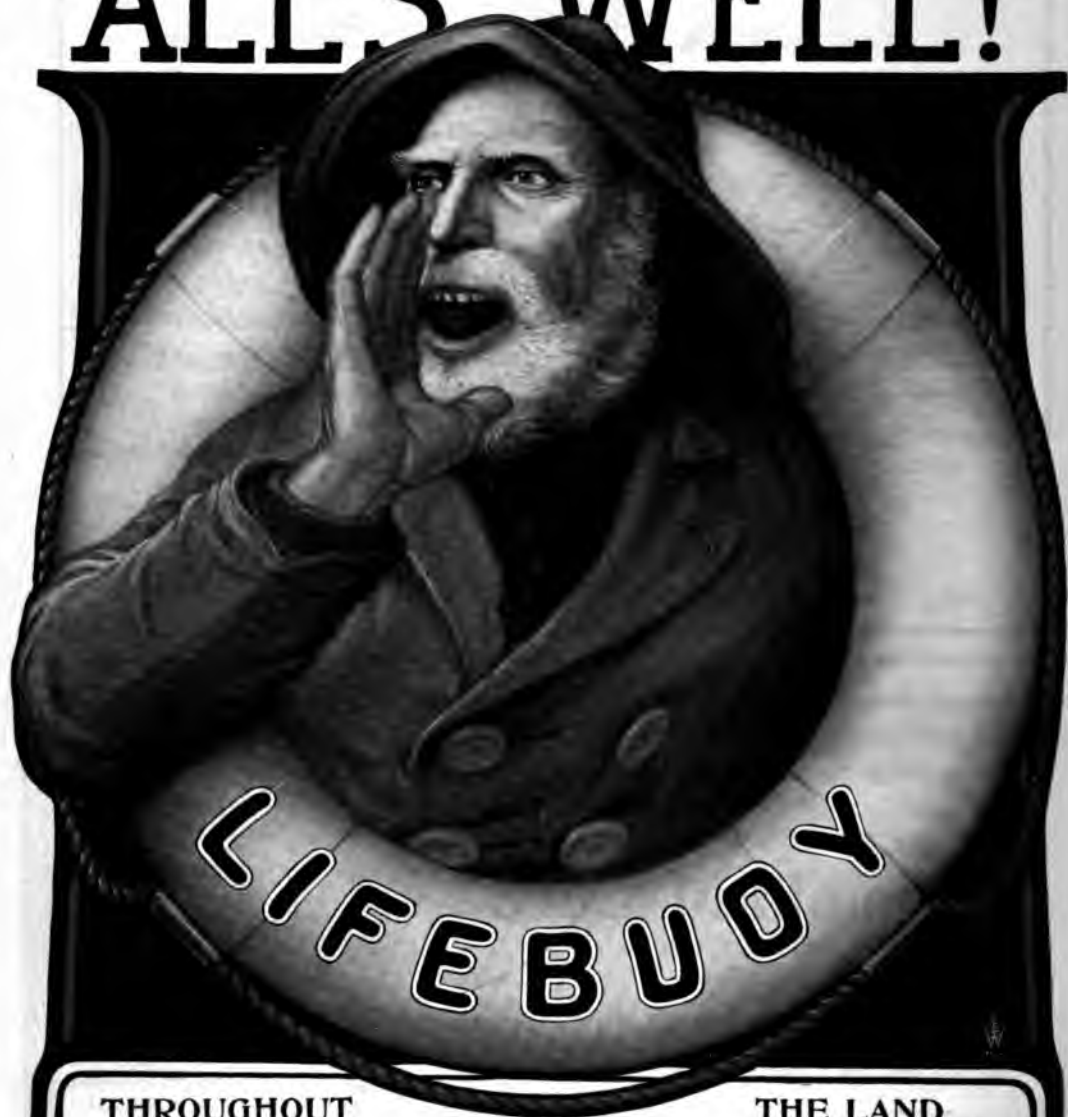
OUR 8200 miles of rail-  
road reach out from  
Chicago, Peoria and  
St. Louis to all the important  
cities in the west and north-  
west such as

ST. PAUL  
MINNEAPOLIS  
OMAHA  
KANSAS CITY  
DENVER

If you are going to any of  
these places or to the Pacific  
coast, kindly let me send you  
time tables and other informa-  
tion about our train service.

P. S. EUSTIS,  
Pass. Trsf. Mgr., C. B. & Q. R. R.  
CHICAGO, ILL.

# "ALL'S WELL!"



THROUGHOUT

THE LAND

should ring the "All's Well" in every household where this wonderful cleanser and disinfectant—Lifebuoy Soap—is used. What electricity is to gas, Lifebuoy Soap is to soaps. Lifebuoy is more than soap, yet costs no more—but does more. Destroys dirt and disease germs.

An atmosphere of health prevails wherever Lifebuoy Soap is used. Used the same as ordinary soap and costs no more. Money refunded if not satisfactory.

# BUFFALO LITHIA WATER

Its Reputation does not Depend upon "Talking Points."

It is Offered to the Public upon its Record of Results Accomplished. Nothing save an Actual Test can be More Satisfactory to the Patient than the Testimony of Eminent Medical Men who have Repeatedly Tested its Merits in Bright's Disease, Albuminuria Renal Calculi, Gout, Rheumatism, and all Uric Acid Troubles.

**Cyrus Edson, A. M., M. D.,** *Health Commissioner of New York City and State, President Board of Pharmacy, New York City; Examining Physician Corporation Council, New York City, etc.,* says: "I have prescribed **BUFFALO LITHIA WATER** with great benefit in Bright's Disease."

**Dr. William H. Drummond,** *Professor of Medical Jurisprudence, Bishop's University, Montreal, Canada;* "In the Acute and Chronic Nephritis (**Bright's Disease of the Kidneys**) of Gouty and Rheumatic Origin as well as in the graver Albuminuria of Pregnancy, I have found **BUFFALO LITHIA WATER** to act as a veritable antidote, and I know of no other natural agent possessing this important quality."

**T. Griswold Comstock, A. M., M. D.,** *of St. Louis, Mo.,* says: "I have often prescribed **BUFFALO LITHIA WATER** in Gouty and Rheumatic conditions and in Renal Calculi, accompanied with Renal Colic, and always with the most satisfactory results. In Renal Calculi, where there is an excess of Uric Acid, it is especially efficacious."

**Dr. Jos. Holt,** *of New Orleans, Ex-President of the State Board of Health of Louisiana,* says: "I have prescribed **BUFFALO LITHIA WATER** in affections of the kidneys and urinary passages, particularly in Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra. The results satisfy me of its extraordinary value in a large class of cases usually most difficult to treat."

Voluntaneous medical testimony of the highest order, which admits of no question or imputation, mailed to any address.

**BUFFALO LITHIA WATER** is for sale by druggists and grocers generally.

**PROPRIETOR BUFFALO LITHIA SPRINGS, VIRGINIA.**

Finest in the World  
**BAKER'S  
COCOA**



—  
LOOK  
AT  
THE  
LABEL  
—

—  
TAKE  
NO  
OTHER  
—

CHOICE RECIPES, 30 PAGES, SENT FREE  
**WALTER BAKER & CO. Ltd.**  
ESTABLISHED 1760. DORCHESTER, MASS.  
40 Highest Awards in Europe and America

**WEBER  
PIANOS**

THE WEBER TONE  
IS THE IDEAL  
PIANO TONE



The  
**WEBER PIANO COMPANY.**  
108 Fifth Ave., New York.  
266 Wabash Ave., Chicago.

Catalogue mailed free upon request.

**"WE ARE SEVEN"**

(An Echo From The Kitchen)

We are seven highly polished  
Kitchen tins upon the wall.  
All our faces shining brightly.  
Slightly show from great to small.  
All this fresh and healthy glow.  
Owe we to



CLEANS-SCOURS-POLISHES

FOR KITCHEN AND TABLEWARE

**Yose PIANOS**

have been established over 50 YEARS. By our system of payments every family in moderate circumstances can own a YOSE piano. We take old instruments in exchange and deliver the new piano in your home free of expense.

Write for Catalogue D and explanations.



THE LABORATORY SCHOOL

# The Elementary School Teacher

VOLUME III

JUNE, 1903

NUMBER 10

PROGRAM NUMBER  
National Educational Association  
Boston, Mass., July 6-10, 1903

## Books of Educational Importance

Two Invaluable Works Edited by SHERWIN CODY

*Just Published*

### A SELECTION OF THE BEST ENGLISH ESSAYS

It is hoped that Mr. Cody's new book will meet with the same approval from educators as did its predecessor. It will be found equally useful as a source of Mr. Cody's general information and his historical and critical introductions to each essay. These, together with the selections, illustrate perfectly the history of English prose style. The ten writers whose essays are used are Addison, Bacon, Carlyle, DeQuincy, Emerson, Arnold, Lamb, Swift, Macaulay, and Ruskin.

*Sixth Thousand*

### A SELECTION OF THE WORLD'S GREATEST SHORT STORIES

The best available compilation of these short masterpieces of fiction, which, with Mr. Cody's admirable and pertinent introductions and notes, constitutes a history of the art of short story writing. It has now been adopted by over thirty educational institutions. The examples have been taken from Boccaccio, "Avalon Nights," Irving, Balzac, Dickens, Thackeray, Poe, Hawthorne, Maupassant, Kipling, Barrie, and Arthur Morrison.

*Each of these volumes is printed on thin Bible paper, making a very convenient book.  
Flexible cloth, 16mo., \$1.00, net, each.*

*Ready this Fall*

### AN INDEX TO POETRY AND RECITATIONS

Being a practical reference manual for the Librarian, Teacher, Bookseller, Elocutionist, etc.  
Edited by EDITH GRANGER, A.B.

This will undoubtedly prove to be one of the most needed reference books ever published. Over 500 standard and popular collections have been indexed, comprising nearly thirty thousand titles, arranged alphabetically under three heads—titles, authors, and first lines. (35 cc, net.)

**A. C. McCLURG & CO., Publishers**  
**BOOKSELLERS, STATIONERS, AND IMPORTERS**  
Especially equipped for handling public library orders  
215-221 Wabash Ave., CHICAGO

Good fortune always comes in Pears'



"THE PROPOSAL"

A PEAR'S SOAP COMPLEXION  
IS IRRESISTIBLE



# The Elementary School Teacher

EDITED BY

The University of Chicago School of Education

JOHN DEWEY, *Director*

ELLA F. YOUNG, *Managing Editor*

---

## CONTENTS FOR JUNE, 1903

|                                                                                            |                        |
|--------------------------------------------------------------------------------------------|------------------------|
| ELEMENTARY SCIENCE TEACHING IN THE LABORATORY SCHOOL. <sup>1</sup> I                       |                        |
|                                                                                            | KATHERINE B. CAMP 661  |
| PRIMITIVE HISTORY IN PRIMARY GROUPS IN THE LABORATORY SCHOOL. <sup>1</sup> I               |                        |
|                                                                                            | KATHERINE B. CAMP 668  |
| ELEMENTARY ART TEACHING IN THE LABORATORY SCHOOL. <sup>1</sup> I                           |                        |
|                                                                                            | LILLIAN S. CUSHMAN 680 |
| ELEMENTARY MUSIC TEACHING IN THE LABORATORY SCHOOL. <sup>1</sup> I                         |                        |
|                                                                                            | MAY ROOT KERN 686      |
| ELEMENTARY HISTORY TEACHING IN THE LABORATORY SCHOOL. <sup>1</sup> I                       |                        |
|                                                                                            | LAURA L. RUNYON 694    |
| ELEMENTARY COOKING IN THE LABORATORY SCHOOL <sup>1</sup> -                                 | ALTHEA HARMER 706      |
| INTRODUCTION TO THE PRIMITIVE TEXTILE WORK IN THE LABORATORY SCHOOL <sup>1</sup> - - - - - | ALTHEA HARMER 710      |
| LITERATURE IN THE ELEMENTARY SCHOOL. III - - - -                                           | J. ROSE COLBY 718      |
| BOOK REVIEW:                                                                               |                        |
| <i>Dopp</i> : The Place of Industries in Elementary Education, JOHN DEWEY - - - -          | 727                    |

<sup>1</sup>The Elementary School referred to in *School and Society*.

Hereafter No. 1 of the new volume will be published in September.

---

The subscription price of the ELEMENTARY SCHOOL TEACHER is \$1.50 a year, ten numbers, none being issued in July and August; single copies 20 cents. The ELEMENTARY SCHOOL TEACHER appears, with the foregoing exception, on the first day of each month. Subscriptions may begin at any time. When so ordered, the magazine is stopped at the expiration of the subscription. Without distinct orders to the contrary, it is continued, as it has been found by experience that such is the wish of the majority of our subscribers. When subscribers fail to receive the magazine promptly, they will confer a favor by notifying the publisher at once. Checks, drafts, and money orders should be made payable to the University of Chicago. Articles, books for review, and all communications for the Editor should be addressed to The Editor of the ELEMENTARY SCHOOL TEACHER, University of Chicago, Chicago, Ill.

SUBSCRIPTIONS and all business communications should be sent to **THE UNIVERSITY OF CHICAGO PRESS,**  
**CHICAGO, ILLINOIS**

ENTERED AT THE POST-OFFICE AT CHICAGO, ILLINOIS, AS SECOND-CLASS MATTER, OCTOBER 30, 1902  
COPYRIGHTED, 1903, BY THE UNIVERSITY OF CHICAGO



# NOTABLE NEW BOOKS THE MORSE READERS

Practical Graded Text, Five Books

By THOS. M. BALLIET, Supt., Springfield, Mass., and ELLA M. POWERS

These Books contain all the Features which are required for the BEST MODERN READERS. Universally indorsed as the best Grade-Readers.

**MORSE'S EDUCATIONAL SYSTEM** and the **NATURAL-MOVEMENT METHOD COPY BOOKS** (Medial.) Many original features but thoroughly practical. *20 to 28 Adjustable Copy Slips in the back of each book, giving double the copy material.* Correlated Copy Material carefully graded and illustrated.

See Catalog for Many Other Choice Books

## THE MORSE COMPANY

8 Beacon St., BOSTON

The Bank of Metropolis Building, 31 Union Square,  
New York City, B'way and 16th Street

228 Wabash Ave., CHICAGO

### Attention Teachers

The Independent Teachers' Agency of Waterloo, Iowa, now have many hundred vacancies, covering all states and territories. Correspondence solicited from all Teachers who desire a new position. Lists of vacancies can be sent you immediately. Exceptionally good opportunities are now offered grade teachers. Enrolment good until located by the agency. Over 1,000 testimonials from leading teachers.

NEW YORK, New York, 150 Fifth Ave., Tel. 6750 18th St.

### E. Miriam Coyriere Teachers' Agency

Established 1880. Colleges, schools, and families supplied. Teachers placed. Schools conscientiously recommended to parents. Musical Department. School property rented and sold.

### THE COLORADO TEACHERS' AGENCY

FRED DICK, Ex-State Superintendent, Manager.

WE WANT COMPETENT TEACHERS.

WE RECOMMEND NO OTHERS.

:: 1543 Glenarm Street, DENVER, COLORADO.

### The James F. McCullough Teachers' Agency

Fine Arts Building, Chicago

We are seeking thoroughly qualified teachers for desirable positions in all grades of school work from Kindergarten to University, including special teachers and supervisors. School authorities in search of a superintendent, principal, or teacher—**Try McCullough.**

### TEACHERS WANTED VACANCIES NOW FOR SEPTEMBER

Free registration until June 15.

SALARIES

Primary, Intermediate,  
and Grammar-grade Teachers \$500 to \$800  
High-school Assistants, Lat-  
in, Science, Mathematics, etc. \$600 to \$1200  
State Normals, Colleges,  
Universities . . . . . \$1200 to \$1600

### Thurston Teachers' Agency

Anna M. Thurston, Mgr., 378 Wabash Av., Chicago

### THE FISK TEACHERS' AGENCIES

AGENCY MANUAL SENT FREE TO ANY ADDRESS

4 Ashburton Pl., Boston.

414 Century Bldg., Minneapolis.

203 Michigan Bldg., Chicago.

518 Parrott Bldg., San Francisco

525 Stimson Bldg., Los Angeles

94 Seventh St., Portland

1505 Penn. Ave., Washington

622 Hyde Bldg., Spokane

156 Fifth Ave., New York

533 Cooper Bldg., Denver



### HOW THE UNITED STATES GREW

Eight leaflets just added to the Old South Series, which now comprises 133 reprints of important historical documents. Among these are the Ordinance of 1784; The Discovery of the Columbia River; the Cession of Louisiana.

5 cents a copy. Send for lists

Directors of Old South Work,  
Old South Meeting House—Boston

Hundreds of Teachers Have Annually Been Benefited

### The Clark Teachers' Agency

15TH YEAR

B. F. CLARK, Manager

378-388 Wabash Avenue - CHICAGO

SEND FOR "OUR PLATFORM"

### The University of Chicago Press

Educational and Scientific works  
printed in English, German,  
French, and all other modern  
languages. Estimates furnished.

58th St. and Ellis Ave., CHICAGO

# A Short Graded Course of Reading from the Riverside Literature Series

The specific recommendations of over 60 prominent Superintendents. (Excepting  
The Book of Nature Myths since published.)

| Number.      |                                                                                             | Price.    |           |
|--------------|---------------------------------------------------------------------------------------------|-----------|-----------|
|              |                                                                                             | In paper. | In cloth. |
| Grades I-II. |                                                                                             |           |           |
| P            | Hiawatha Primer (Special Number).....                                                       | \$        | \$ .40    |
| V            | The Book of Nature Myths (Special Number).....                                              |           | .45       |
| 47-48        | Scudder's Fables and Folk Stories.....                                                      | .30       | .40       |
| 49-50        | Hans Andersen's Stories.....                                                                | .30       | .40       |
| Grade III.   |                                                                                             |           |           |
| 107-108      | Grimm's German Household Tales.....                                                         | .30       | .40       |
| 59           | Verse and Prose for Beginners in Reading.....                                               | .15       | .25       |
| Grade IV.    |                                                                                             |           |           |
| 70-71        | A Selection from Whittier's Child Life in Poetry and Prose.....                             | .30       | .40       |
| 17-18        | Hawthorne's Wonder Book.....                                                                | .30       | .40       |
| Grade V.     |                                                                                             |           |           |
| 10-29        | Hawthorne's Biographical Stories; Little Daffydowndilly, etc.....                           | .30       | .40       |
| 13-14        | Longfellow's Song of Hiawatha.....                                                          | .30       | .40       |
| Grade VI.    |                                                                                             |           |           |
| 7-8-9        | Hawthorne's Grandfather's Chair; True Stories from New<br>England's History, 1720-1803..... | .45       | .50       |
| 28-36        | Burrough's Birds and Bees, Sharp Eyes, and Other Papers.....                                | .30       | .40       |
| Grade VII.   |                                                                                             |           |           |
| 75           | Scudder's George Washington (Double Number).....                                            | .30       | .40       |
| 6            | Grandmother's Story of Bunker Hill and Other Poems....                                      | .15       | .25       |
| 40-69        | Hawthorne's Tales of the White Hills and Sketches; The<br>Old Manse and a Few Mosses.....   | .30       | .40       |
| Grade VIII.  |                                                                                             |           |           |
| 1            | Longfellow's Evangeline.....                                                                | .15       | .25       |
| 4            | Whittier's Snowbound, and other Poems.....                                                  | .15       | .25       |
| 30           | Lowell's Vision of Sir Launfal, and Other Poems.....                                        | .15       | .25       |
| 1-4-30       | In one volume.....                                                                          |           | .50       |

THE HIAWATHA PRIMER and THE BOOK OF NATURE MYTHS  
form a two-book course for beginners continuous in vocabulary, grading, and subject  
matter.

## Houghton, Mifflin and Company

4 Park St.,  
Boston.

85 Fifth Ave.,  
New York.

378-388 Wabash Ave.,  
Chicago.

## A Delightful and Instructive Summer Vacation for Teachers

A trip to Jamaica, "The Queen of the Antilles," is the most delightful and profitable summer vacation that a tired teacher can enjoy. Combining a season of healthful rest with a continued series of educational object lessons, an interesting five-day sea voyage of 1588 miles takes you to an "Isle of Fronded Palms," to a foreign land, among foreign sights and foreign people, yet speaking your language. You will be charmed with the lofty mountains, and fascinated with the luxuriant growth of brilliant tropical vegetation, rare plants, palms, ferns, fruits, and gorgeous flowers in riotous profusion, and, stealing gently over all, a quiet, dreamy, peaceful atmosphere of rest, so pure and clear that the moon and stars will seem to be nearer; and in the south will blaze that mystic constellation, "the Southern Cross." The trade winds, acting like a huge electric fan, will keep a delicious spice-laden breeze in motion, so tempering the air that there will be no hot, stifling days, or dull, enervating nights. The thermometer varies only from 70° to 88°. Should you enjoy sea-bathing, you will find clean, hard, white, sandy beaches everywhere along the coast, laved with the milk-warm, crystal-blue, gulf-stream current, without fear of sharks or



undertow. A dip in the Caribbean here will give you a sense of renewed vigor and delight. Should you enjoy riding, bicycling, or strolling, you will find hundreds of miles of smooth, hard, well-kept roads and by-paths; and if you desire mountain

climbing here is the famous Blue Mountain range, many peaks towering nearly 8,000 feet above the sea, from whose lofty terraces your eye will feast on the most magnificent views to be seen on this continent. The usual annoying pests of our summer resorts, such as flies, mosquitoes, snakes, fogs, and fevers, are totally absent. Steam and electric railroads extending to various points of the island will enable you to make many delightful excursions among towns and villages whose histories and records date far back of our United States civilization. On every hand you will find unusual opportunity for study of history, geology, geography, botany and astronomy.

Elegant American or English well-kept hotels or boarding-houses will permit you to remain for a short or long vacation at any desired rate. The staunch twin-screw "Admiral" steamers leave Boston every Wednesday and Friday. Round trip tickets, including meals and state-room berths, \$60.00, good from May 1st to October 1st.

Write for free booklet "Tropical Holiday." Address UNITED FRUIT CO., Long Wharf, Boston.

**What in the world to give a friend?**

Yale men know and the *New Haven Union* says: "The question of *what in the world to give a friend* is solved by

**SONGS OF ALL THE COLLEGES**

which is alike suitable for the collegian of the past, for the student of the present, and for the boy (or girl) with hopes; also for the music-loving sister and a fellow's best girl."

"All the new songs, all the old songs, and the songs popular at all the colleges; a welcome gift in any home anywhere."

**\$1.50—BOOK STORES, MUSIC DEALERS—\$1.50**

**HINDS & NOBLE, Publishers.**  
31-33-35 W. 16th St., New York City.  
Schoolbooks of all publishers at one store

### HARVARD UNIVERSITY.

**THE SUMMER SCHOOL OF ARTS AND SCIENCES** offers 83 courses of instruction in Sanskrit, Greek, Latin, English, German, French, Spanish, Russian, Public Speaking, History and Government, Economics, Psychology, Education, Theory of Design, Drawing, Music, Mathematics, Surveying, Shop-work, Physics, Chemistry, Botany, Geology, Geography, and Physical Education. The courses are designed for teachers, but are open to all qualified men and women. *July 6 to August 14, 1903.* Reduced railway rates on account of the meeting of the National Educational Association in Boston. The Announcement and detailed information will be sent on application to J. L. LOVE, 16 University Hall, Cambridge, Mass.

N. S. SHALER, *Chairman.*

## Back Numbers of The Elementary School Teacher Wanted . . .

WE are desirous of securing several copies of The Elementary School Teacher, Vol. II, No. 2 (October, 1901), and will pay 30c each for copies of this number delivered in Chicago. We also offer 30c each for copies of Vol. II, No. 1 (July, 1901).

Address the Publishers

**The University of Chicago Press, Chicago, Illinois**

# **The Place of Industries in Elementary Education**

By **KATHARINE ELIZABETH DOPP.**

## **NEW FEATURES**

The Evolution of Aryan Peoples Presented in a New and Concrete Form.

A New Motive Power Utilized in the Work of Education.

New Materials for the Course of Study.

New Methods of Teaching.

Means of Securing Co-operation between Grade Teachers and Teachers of the Industrial and Fine Arts.

A Contribution to the Labor Question.

An Insight into the Factory System.

**These features are fully amplified by practical illustrations of the author.**

208 pp., 12mo, cloth, *net*, \$1.00; postpaid, \$1.10.

# **The Possibility of a Science of Education**

By **SAMUEL B. SINCLAIR**, Vice Principal  
Normal School, Ottawa, Canada.

An Investigation of the Possibility of a Science of Education.

Necessity of Professional Training for Teachers.

The Kind of Training which Should be Given.

Conclusions of the Best Educators of Today.

150 pp., 8vo, cloth, *net*, \$1.00; postpaid, \$1.08.

# **The School and Society**

By **JOHN DEWEY.** 130 pp., 12mo, cloth, postpaid, \$1.00.

---

---

**The University of Chicago  
Press, Chicago, Illinois**

# NEW ENGLAND Conservatory of Music

**BOSTON, MASS.**

In a Conservatory building erected for its exclusive use and surpassing in size, grandeur and equipment any institution of the kind in the world, the New England Conservatory of Music presents advantages unparalleled in this country or abroad.

The scope of its courses is such that no limitations are set upon the student's ambitions.

**Every department under a master.**

Pianoforte, Organ, Orchestral Instruments and Vocal Music courses are supplemented by such other branches as History of Music, Theory, Language, Diction, Piano and Organ Tuning, Choir Training, Musical Journalism. Department of Elocution and Oratory affiliated with Emerson College.

The Concerts, Recitals and daily associations are in themselves worth more to the student than the cost of tuition.

Graduates are eagerly sought as teachers.

**GEORGE W. CHADWICK, Director.**

*All particulars and year-book will be sent on application.*

## The Second Bank of the United States

By RALPH C. H. CATTERALL



**HISTORY** of the Bank, treating at length both the monetary and political questions connected with the institution.

Much of the material for this work was obtained from the manuscript papers of Nicholas Biddle, including his letters and letter-books.

This book is of special interest to legislators, bankers, men of affairs, and students of financial history and political institutions.

538 pages, 8vo, cloth, *net*, \$3.00; postpaid, \$3.20. For sale by book-dealers or the publishers.

## The University of Chicago Press, Chicago

# D. Appleton & Company

## RECENT PUBLICATIONS

**APPLETONS' NEW TEXT-BOOKS ON PHYSIOLOGY AND HYGIENE.** By WILLIAM O. KROHN, Ph.D.

*First Book in Hygiene.* 35 cents.

*Graded Lessons in Hygiene.* 60 cents.

In these books Dr. Krohn tells young people in an unusually attractive and piquant way how to be well and to keep well. There is no humdrum or drudgery in them. They make the study of healthful action and stimulating exercise a delight to children and the consequent observance of the laws of health a pleasure.

**ELEMENTARY CHEMISTRY.** By ROBERT HART BRADBURY, Ph.D., Teacher of Chemistry, Philadelphia Central Manual Training High School, \$1.00. With Laboratory Experiments, \$1.25. Laboratory Experiments, separately, 45 cents.

**THE MIDDLE AGES AND MODERN EUROPE.** By DANA C. MUNRO, Professor in the University of Wisconsin, and MERRICK WHITCOMB, Professor in the University of Cincinnati. One volume, 12mo. Cloth, \$1.50. In two volumes, \$2.00.

**GOETHE'S HERMANN AND DOROTHEA.** By ARTHUR H. PALMER, Ph.D., Professor in Yale University. 60 cents.

**SHAKESPEARE'S MERCHANT OF VENICE.** Edited by RICHARD JONES, Ph.D., and FRANKLIN T. BAKER. 30 cents.

## TWENTIETH CENTURY TEXT-BOOKS READY IN JUNE

**A HISTORY OF THE BRITISH NATION.** By GEORGE M. WRONG, M.A., Professor in the University of Toronto.

**CICERO'S ORATIONS.** By CHARLES H. FORBES, A.M., Professor in Phillips Andover Academy.

**VIRGIL'S AENEID.** By JESSE B. CARTER, Ph.D., Professor in Princeton University.

**SELECTIONS FROM HOMER'S ILIAD.** By ALLEN R. BENNER, A.B., Professor in Phillips Andover Academy.

**A NEW GERMAN GRAMMAR.** By MARION D. LEARNED, Ph.D., Professor in the University of Pennsylvania.

*Send address and receive descriptive matter before making selections for fall term.*

## D. APPLETON & COMPANY

203 Michigan Ave.

CHICAGO, ILLINOIS

# Count the Dots!

THEN count on  
RAND, McNALLY  
& COMPANY

To supply you with Up-to-date, Attractive, and Teachable School Books

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>I. Lights to Literature Readers. <i>A Five and Eight-book Series.</i></p> <p>II. New Century Readers. <i>A Five and Eight-book Series.</i></p> <p>III. Dryer's Series of Rand-McNally Geographies. (<i>Three books.</i>)</p> <p>IV. Hewett's Speller.</p> <p>V. Hewett's Arithmetics.</p> <p>VI. Composition and Rhetoric. By KAVANA and BEATTY.</p> <p>VII. Language Through Nature, Literature, and Art. By PERDUE and GRISWOLD.</p> <p>VIII. Hand-Loom Weaving. By TODD.</p> <p>IX. The Rand-McNally Primary Grammar. By HALL.</p> <p>X. The Rand-McNally Practical English Grammar. By HALL.</p> <p>XI. On Beginning Number Work. By OSBORNE.</p> <p>XII. The Round Rapid Writing Books. (<i>Nine Numbers.</i>)</p> | <p>XIII. A First Book in Business Methods. By TELLER and BROWN.</p> <p>XIV. The CANTERBURY CLASSICS</p> <p>(a) Rab and His Friends.</p> <p>(b) Gold Bug.</p> <p>(c) Cricket on the Hearth.</p> <p>(d) King of the Golden River.</p> <p>(e) Story of a Short Life.</p> <p>(f) Alice in Wonderland.</p> <p>(g) Treasure Island, Etc.</p> <p>XV. NEW SUPPLEMENTARY READERS</p> <p>(a) Sunbonnet Babies' Primer.</p> <p>(b) Child's Garden of Verses.</p> <p>(c) Four Old Greeks.</p> <p>(d) Wings and Stings.</p> <p>(e) Viking Tales.</p> <p>(f) Eskimo Stories.</p> <p>(g) King Arthur.</p> <p>(h) Norse Stories.</p> <p>(i) Classic Myths.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Etc., Etc.

Write us a letter of inquiry and receive in reply a letter of information regarding these books.

RAND, McNALLY & COMPANY  
EDUCATIONAL PUBLISHERS

Chicago, New York, and London

## Bofton

Bofton, the Metropolis of New England in Northern America, is commodiously feated for traffick on the Sea Shoar. 'Tis a large and fpacious Town, compof'd of feveral order'd ftreets, and hath been chofen as the meeting place of the National Educational Af-fociation in July.

### THE MICHIGAN CENTRAL RAILROAD

The Niagara Falls Route, has made a fpecial rate for this occa-fion. Send 2 cents for antique booklet, alfo Summer Tours — free while they laft.

O. W. RUGGLES, G. P. A.,  
CHICAGO.

|   |                                                                                     |                                       |
|---|-------------------------------------------------------------------------------------|---------------------------------------|
| A |   | In Adam's Fall<br>We Sinned all.      |
| B |  | Thy Life to Mend<br>This Book Attend. |
| C |  | The Cat doth play<br>And after flay.  |
| D |  | A Dog will bite<br>A Thief at night.  |
| E |  | An Eagles flight<br>Is out of fight.  |
| F |  | The Idle Fool<br>Is whipt at School.  |

A page from the Michigan  
Central's Bofton book.

WE WILL SUPPOSE THAT YOU ARE LOOKING FOR A POLICY SIMPLE IN FORM AND WITH MODERATE PAYMENTS. THEN THE PARTICIPATING WHOLE LIFE POLICY OF THE PRUDENTIAL IS WHAT YOU WANT. THIS POLICY STANDS AS A TYPE OF ALL THAT IS BEST AND MOST DESIRABLE IN LIFE INSURANCE. YOU PAY US AS FOLLOWS: ON YOUR POLICY A STATED AMOUNT EITHER ANNUALLY, SEMI-ANNUALLY OR QUARTERLY DURING YOUR LIFE. THE AMOUNT PAID TO YOU UNDER THE POLICY IS PAYABLE TO YOUR BENEFICIARY AT YOUR DEATH. IN ONE SUM, OR IT MAY BE MADE PAYABLE IN ANY NUMBER OF EQUAL ANNUAL INSTALLMENTS, THUS PROVIDING AN ANNUAL INCOME TO YOUR BENEFICIARY FOR LIFE. ONE OF THE MANY LIBERAL FEATURES OF THIS POLICY IS THAT YOU SHARE IN THE PROFITS AFFORDED BY THE COMPANY, KNOWN AS DIVIDENDS. THESE DIVIDENDS ARE INVESTED AND ALLOWED TO ACCUMULATE AT COMPOUND INTEREST FOR A PERIOD OF EITHER FIFTEEN OR TWENTY YEARS, AS YOU MAY CHOOSE.

WHEN TAKING OUT THE POLICY AT THE END OF THE SELECTED PERIOD YOU MAY RECEIVE THESE ACCUMULATED DIVIDENDS IN CASH, OR YOU MAY APPLY THEM TO REDUCE FUTURE PREMIUMS. THE WHOLE LIFE POLICY IS ALSO WITH DIVIDENDS PAYABLE ANNUALLY OR AT INTERVALS OF FIVE YEARS. AFTER THE POLICY HAS BEEN IN FORCE THREE YEARS, YOU MAY BORROW MONEY FROM THE COMPANY ON THE SECURITY OF YOUR POLICY. THE AMOUNT THAT MAY BE BORROWED INCREASES WITH THE RUMBER OF PREMIUMS PAID. THE COST IS LOW, AND RATES WILL BE FURNISHED UPON REQUEST. SHOULD YOU DESIRE A POLICY WHERE EITHER YOU OR YOUR BENEFICIARY WILL RECEIVE THE BENEFIT, WE WOULD RECOMMEND THE ENDOWMENT POLICY. UNDER THIS PLAN THE AMOUNT INSURED IS PAYABLE TO YOU IF LIVING AT THE END OF THE ENDOWMENT PERIOD, OR TO YOUR BENEFICIARY IF YOUR DEATH SHOULD OCCUR PREVIOUSLY. THE LENGTH OF THE ENDOWMENT PERIOD MAY BE TEN, FIFTEEN OR TWENTY YEARS, AS YOU MAY SELECT WHEN TAKING OUT THE POLICY. THE PREMIUMS ARE PAYABLE BY YOU EITHER ANNUALLY, SEMI-ANNUALLY OR QUARTERLY DURING THE LIFE OF THE POLICY. OR THEY MAY BE LIMITED TO A TERM OF YEARS, LESS THAN THE ENDOWMENT PERIOD. IF YOU DESIRE, FOR EXAMPLE, THE PREMIUM ON A TWENTY-YEAR ENDOWMENT POLICY MAY BE PAID BY YOU DURING THE FIRST TEN YEARS IF YOU WISH. UNDER THE ENDOWMENT PLAN THE INSURED MAY NOT ONLY SECURE PROTECTION FOR HIS FAMILY, BUT HAVE A CONVENIENT AND PROFITABLE METHOD OF INVESTING HIS SAVINGS. THIS POLICY SHARES IN THE PROFITS AFFORDED BY THE COMPANY IN THE SAME MANNER AS THE WHOLE LIFE POLICY. AFTER TWO YEARS' PREMIUMS HAVE BEEN PAID, YOU MAY BORROW MONEY FROM THE COMPANY ON THE SECURITY OF YOUR POLICY. THE POLICY HAS MANY OTHER LIBERAL PROVISIONS. SHOULD YOU DESIRE A POLICY THAT IS PAYABLE AT YOUR DEATH, BUT WISH TO

LIMIT YOUR PREMIUM PAYMENTS TO A NUMBER OF YEARS, WE ISSUE WHAT IS KNOWN AS THE LIMITED-PAYMENT LIFE POLICY. THIS IS THE SAME AS THE WHOLE LIFE POLICY, EXCEPT THAT THE PAYMENTS ARE MADE BY YOU FOR TEN, FIFTEEN OR TWENTY YEARS ONLY, AS SELECTED WHEN TAKING OUT THE POLICY. IF YOU SURVIVE THE PREMIUM-PAYING PERIOD, THE POLICY CONTINUES IN FORCE ON THE BOOKS OF THE COMPANY, AND YOU MAY DRAW OUT YOUR DIVIDENDS, BUT NO FURTHER PREMIUM PAYMENTS ARE REQUIRED. THIS POLICY IS SUBJECT TO ALL THE PRIVILEGES AND BENEFITS OF THE WHOLE LIFE POLICY. AFTER THREE YEARS' PREMIUMS HAVE BEEN PAID, YOU MAY BORROW MONEY FROM THE COMPANY ON THE SECURITY OF YOUR POLICY, AND THE AMOUNT YOU MAY BORROW INCREASES WITH THE NUMBER OF PREMIUMS PAID. SHOULD A POLICY FOR A SMALL AMOUNT BE DESIRED, ONE OF THE BEST FORMS IS THE INTERMEDIATE POLICY. IT IS ISSUED IN AMOUNTS OF \$50. ON THE WHOLE LIFE, LIMITED-PAYMENT LIFE OR ENDOWMENT PLAN, THE INTERMEDIATE POLICY SHARES IN THE PROFITS AFFORDED BY THE COMPANY, WHICH ARE CREDITED TO THE POLICY.

AFTER IT HAS BEEN IN FORCE FOR FIVE YEARS, AND EVERY YEAR THEREAFTER IT WILL, IF IN FORCE, BE CREDITED WITH AN ANNUAL DIVIDEND. THIS POLICY IS SUBJECT TO OTHER VALUABLE PRIVILEGES, WHICH WILL BE EXPLAINED UPON REQUEST. THE INTERMEDIATE POLICY IS VERY POPULAR, AND IS ISSUED IN AMOUNTS FROM \$50 TO PERSONS BETWEEN AGES ONE AND SEVENTY. THE PREMIUM PAYMENTS ARE MADE BY THE POLICYHOLDER IN SMALL WEEKLY SUMS, SUCH AS TEN, FIFTEEN OR TWENTY CENTS A WEEK, AND UPWARDS, FOR WHICH OUR AGENT CALLS. THIS POLICY PROVIDES FOR PAYMENT OF THE CLAIM BY THE COMPANY IMMEDIATELY ON ACCEPTANCE OF SATISFACTORY PROOF OF DEATH.

AS DO ALL THE POLICIES ISSUED BY THE PRUDENTIAL. AFTER IT HAS BEEN IN FORCE FIVE YEARS, THE INDUSTRIAL POLICY IS CREDITED WITH DIVIDENDS, WHICH ARE ADDED TO THE POLICY, SO THAT IT BECOMES MORE AND MORE VALUABLE AS IT GROWS OLDER. AT THE END OF FIFTEEN YEARS, A CASH DIVIDEND IS PAID BY THE COMPANY. THIS POLICY PROVIDES FULL PROTECTION TO PERSONS WHO WISH A SMALL AMOUNT OF LIFE INSURANCE AT MODERATE COST. A POLICY THE FACE VALUE OF WHICH IS INCREASED EVERY YEAR BY A GUARANTEED ADDITION OF FIVE PER CENT. OF THE INITIAL AMOUNT IS FOUND IN THE POPULAR GUARANTEED FIVE PER CENT. TWENTY-YEAR ENDOWMENT BOND. SHOULD YOU SURVIVE THE TWENTY YEARS, THE INITIAL SUM, TOGETHER WITH ALL THE ACCUMULATED GUARANTEED ADDITIONS, BECOMES PAYABLE TO YOU IN CASH. IN OTHER WORDS, WE WILL

AMOUNT OF THE BOND, OR \$250. SHOULD YOU PREFER TO HAVE THIS AMOUNT PAID TO YOU IN INSTALLMENTS, YOU MAY HAVE AN ANNUITY. THIS WOULD PRACTICALLY PROVIDE A PENSION FOR THE REST OF YOUR LIFE. SHOULD YOU DIE BEFORE THE END OF THE TWENTY YEARS, IF THE BOND IS IN FORCE YOUR BENEFICIARY MAY, INSTEAD OF RECEIVING THE CASH, LEAVE IT WITH THE

WAR. THE MANNER OF PAYMENT OF PREMIUMS MAY BE CHANGED ON ANY SUBSEQUENT ANNIVERSARY OF THE DATE OF THE POLICY, WITHOUT INTEREST, WILL BE ALLOWED IN THE PAYMENT OF ANY PREMIUM DURING THE FIRST DURING THE PERIOD OF THE POLICY. SHOULD THE POLICY BE PAID IN FULL, THE CASH LOAN PRIVILEGE CONTAINED IN ORDINARY POLICIES WILL CONTINUE EVERY POLICY. A NEGOTIABLE BOND, THE INSURED MAY AT ANY TIME WHILE THE POLICY IS IN FORCE NAME A NEW BENEFICIARY. THE AMOUNT INSURED UNDER THE POLICY IS PAYABLE IN ONE SUM, BUT MAY BE MADE PAYABLE IN ANY NUMBER OF EQUAL ANNUAL INSTALLMENTS, FROM TEN TO FIFTY FIVE, OR IT MAY BE MADE PAYABLE IN ANY NUMBER OF CONTINUOUS INSTALLMENTS, THAT IS IT MAY BE MADE PAYABLE IN EQUAL ANNUAL INSTALLMENTS OF \$500 AT LEAST TWENTY YEARS, AND AS LONG THEREAFTER AS THE BENEFICIARY SHALL LIVE. EACH INSTALLMENT, EXCEPT THE FIRST, WILL BE INCREASED BY SIXTY PER CENT. OF THE FIRST. THE CASH LOAN PRIVILEGE MAY BE AFFORDED BY THE COMPANY AT THE TIME THE POLICY IS ISSUED, OR ANY PORTION THEREOF NOT LESS THAN \$500 MAY BE LEFT DURING THE LIFETIME OF THE BENEFICIARY. THE COMPANY, WHICH WILL PAY THE CASH LOAN, WILL REMAIN IN FORCE, INTEREST AT THE RATE OF THREE PER CENT. PER ANNUM, TOGETHER WITH SUCH ANNUAL DIVIDENDS AS MAY BE AFFORDED BY THE COMPANY. THE SAID TRUST FUND SHALL BE PAID AT THE DEATH OF THE BENEFICIARY TO THE EXECUTOR, ADMINISTRATOR OR ASSIGNS OF THE BENEFICIARY, BUT MAY BE WITHDRAWN AT ANY TIME, WITH ACCRUED INTEREST, IN THE CASE OF POLICIES MATURING AS ENDOWMENTS, THE INSTALLMENT PRIVILEGE OR TRUST FUND PRIVILEGE MAY BE EXERCISED BY THE INSURED FOR HIS OWN BENEFIT. THE SAME VALUABLE PRIVILEGES ARE EXTENDED TO THOSE WHO MAY DISCONTINUE THEIR PREMIUMS, IF THE POLICY

THE PRUDENTIAL HAS THE STRENGTH OF GIBRALTAR

THE PRUDENTIAL Insurance Company of America

AMOUNT OF THE BOND, OR \$250. SHOULD YOU PREFER TO HAVE THIS AMOUNT PAID TO YOU IN INSTALLMENTS, YOU MAY HAVE AN ANNUITY. THIS WOULD PRACTICALLY PROVIDE A PENSION FOR THE REST OF YOUR LIFE. SHOULD YOU DIE BEFORE THE END OF THE TWENTY YEARS, IF THE BOND IS IN FORCE YOUR BENEFICIARY MAY, INSTEAD OF RECEIVING THE CASH, LEAVE IT WITH THE

WAR. THE MANNER OF PAYMENT OF PREMIUMS MAY BE CHANGED ON ANY SUBSEQUENT ANNIVERSARY OF THE DATE OF THE POLICY, WITHOUT INTEREST, WILL BE ALLOWED IN THE PAYMENT OF ANY PREMIUM DURING THE FIRST DURING THE PERIOD OF THE POLICY. SHOULD THE POLICY BE PAID IN FULL, THE CASH LOAN PRIVILEGE CONTAINED IN ORDINARY POLICIES WILL CONTINUE EVERY POLICY. A NEGOTIABLE BOND, THE INSURED MAY AT ANY TIME WHILE THE POLICY IS IN FORCE NAME A NEW BENEFICIARY. THE AMOUNT INSURED UNDER THE POLICY IS PAYABLE IN ONE SUM, BUT MAY BE MADE PAYABLE IN ANY NUMBER OF EQUAL ANNUAL INSTALLMENTS, FROM TEN TO FIFTY FIVE, OR IT MAY BE MADE PAYABLE IN ANY NUMBER OF CONTINUOUS INSTALLMENTS, THAT IS IT MAY BE MADE PAYABLE IN EQUAL ANNUAL INSTALLMENTS OF \$500 AT LEAST TWENTY YEARS, AND AS LONG THEREAFTER AS THE BENEFICIARY SHALL LIVE. EACH INSTALLMENT, EXCEPT THE FIRST, WILL BE INCREASED BY SIXTY PER CENT. OF THE FIRST. THE CASH LOAN PRIVILEGE MAY BE AFFORDED BY THE COMPANY AT THE TIME THE POLICY IS ISSUED, OR ANY PORTION THEREOF NOT LESS THAN \$500 MAY BE LEFT DURING THE LIFETIME OF THE BENEFICIARY. THE COMPANY, WHICH WILL PAY THE CASH LOAN, WILL REMAIN IN FORCE, INTEREST AT THE RATE OF THREE PER CENT. PER ANNUM, TOGETHER WITH SUCH ANNUAL DIVIDENDS AS MAY BE AFFORDED BY THE COMPANY. THE SAID TRUST FUND SHALL BE PAID AT THE DEATH OF THE BENEFICIARY TO THE EXECUTOR, ADMINISTRATOR OR ASSIGNS OF THE BENEFICIARY, BUT MAY BE WITHDRAWN AT ANY TIME, WITH ACCRUED INTEREST, IN THE CASE OF POLICIES MATURING AS ENDOWMENTS, THE INSTALLMENT PRIVILEGE OR TRUST FUND PRIVILEGE MAY BE EXERCISED BY THE INSURED FOR HIS OWN BENEFIT. THE SAME VALUABLE PRIVILEGES ARE EXTENDED TO THOSE WHO MAY DISCONTINUE THEIR PREMIUMS, IF THE POLICY

THE PRUDENTIAL HAS THE STRENGTH OF GIBRALTAR

THE PRUDENTIAL Insurance Company of America

AMOUNT OF THE BOND, OR \$250. SHOULD YOU PREFER TO HAVE THIS AMOUNT PAID TO YOU IN INSTALLMENTS, YOU MAY HAVE AN ANNUITY. THIS WOULD PRACTICALLY PROVIDE A PENSION FOR THE REST OF YOUR LIFE. SHOULD YOU DIE BEFORE THE END OF THE TWENTY YEARS, IF THE BOND IS IN FORCE YOUR BENEFICIARY MAY, INSTEAD OF RECEIVING THE CASH, LEAVE IT WITH THE

WAR. THE MANNER OF PAYMENT OF PREMIUMS MAY BE CHANGED ON ANY SUBSEQUENT ANNIVERSARY OF THE DATE OF THE POLICY, WITHOUT INTEREST, WILL BE ALLOWED IN THE PAYMENT OF ANY PREMIUM DURING THE FIRST DURING THE PERIOD OF THE POLICY. SHOULD THE POLICY BE PAID IN FULL, THE CASH LOAN PRIVILEGE CONTAINED IN ORDINARY POLICIES WILL CONTINUE EVERY POLICY. A NEGOTIABLE BOND, THE INSURED MAY AT ANY TIME WHILE THE POLICY IS IN FORCE NAME A NEW BENEFICIARY. THE AMOUNT INSURED UNDER THE POLICY IS PAYABLE IN ONE SUM, BUT MAY BE MADE PAYABLE IN ANY NUMBER OF EQUAL ANNUAL INSTALLMENTS, FROM TEN TO FIFTY FIVE, OR IT MAY BE MADE PAYABLE IN ANY NUMBER OF CONTINUOUS INSTALLMENTS, THAT IS IT MAY BE MADE PAYABLE IN EQUAL ANNUAL INSTALLMENTS OF \$500 AT LEAST TWENTY YEARS, AND AS LONG THEREAFTER AS THE BENEFICIARY SHALL LIVE. EACH INSTALLMENT, EXCEPT THE FIRST, WILL BE INCREASED BY SIXTY PER CENT. OF THE FIRST. THE CASH LOAN PRIVILEGE MAY BE AFFORDED BY THE COMPANY AT THE TIME THE POLICY IS ISSUED, OR ANY PORTION THEREOF NOT LESS THAN \$500 MAY BE LEFT DURING THE LIFETIME OF THE BENEFICIARY. THE COMPANY, WHICH WILL PAY THE CASH LOAN, WILL REMAIN IN FORCE, INTEREST AT THE RATE OF THREE PER CENT. PER ANNUM, TOGETHER WITH SUCH ANNUAL DIVIDENDS AS MAY BE AFFORDED BY THE COMPANY. THE SAID TRUST FUND SHALL BE PAID AT THE DEATH OF THE BENEFICIARY TO THE EXECUTOR, ADMINISTRATOR OR ASSIGNS OF THE BENEFICIARY, BUT MAY BE WITHDRAWN AT ANY TIME, WITH ACCRUED INTEREST, IN THE CASE OF POLICIES MATURING AS ENDOWMENTS, THE INSTALLMENT PRIVILEGE OR TRUST FUND PRIVILEGE MAY BE EXERCISED BY THE INSURED FOR HIS OWN BENEFIT. THE SAME VALUABLE PRIVILEGES ARE EXTENDED TO THOSE WHO MAY DISCONTINUE THEIR PREMIUMS, IF THE POLICY

THE PRUDENTIAL HAS THE STRENGTH OF GIBRALTAR

THE PRUDENTIAL Insurance Company of America

JOHN F. DRYDEN,

President.

Write for Information. Dept. 25

HOME OFFICE,

Newark, N. J.

# THE ELEMENTARY SCHOOL TEACHER

JUNE, 1903

## ELEMENTARY SCIENCE TEACHING IN THE LABORATORY SCHOOL.

### I.

IN any general discussion of the place of science in elementary education it is hardly necessary to state that the evidence gathered from publications, as well as from incidental observation, seems to indicate a general dissatisfaction with the results of the nature-study attempted during the past ten years. In general the criticisms take the same forms as those upon the results of manual training; the reason often given for this lack of success is practically the same in both cases. Both nature-study and manual training have been additions to the curriculum, and the explanation of their failure lies in the word "additions." This mysterious and undefined nature-study has been generally inserted by the powers that be in an already crowded course of study. But perhaps the more fundamental objection to the kind of work put in as elementary science, or nature-study, lies in the fact that here, more than in any other subject, the special training and experience of the teacher count in obtaining the result. By this is meant, not simply technical and special training in any of the sciences, but the possession by the teacher of what might be called limiting general concepts; first, scientific method in itself; second, a sympathetic understanding of the springs of action of the child, united with knowledge of the content of the different sciences. It might be objected that a demand for the possession by the teacher of such generalizations would incur the danger of crudity, and the exact reverse



of] the result hoped for, namely, attainment in the end of a scientific attitude on the part of the child. This is no more than we ask ethically when we demand character on the part of the teacher. Character as a force in the education of children demands some conception on the part of the teacher of the ideals toward which he is working. Similarly, the presence of general scientific ideas or concepts in the teacher's mind ought to enable him to pick out typical points in the child's experience, and to give that experience such form that the child gradually approaches the scientific ideal through his own initiative and originality, directed, but not limited, by the ideal in his instructor's mind. Our salvation in science-teaching lies in the fact that, if the method of approach in one line be truly scientific, it will give the clue to the method to be used in any other. One essential thing to be insisted upon is the teacher's ability to recognize the purpose of hypothesis or theory, as merely outlining present knowledge and to be held always flexible, ready for readjustment, or even abandonment, whichever should be demanded by scientific growth and development.

This newer psychological principle of the unity to be found only in experience, in activity, clears the dead wood of inheritance from the field of education in much the same way that in physiology the recognition of the part physical and chemical forces play in living matter has revolutionized that field. The possibilities of control thus opened up are perhaps more easily grasped, but not one whit less revolutionary and encouraging, though baffling, than the very similar opportunities afforded by the clearing and extension of the paths of education by the later psychology. It is certainly true that in the past general scientific principles have guided the selection of subject-matter, but though this has sometimes involved an unconscious recognition of activity on the part of the child, thus making these attempts more or less successful—more successful as the activity chanced to gain ground, less so when scientific conventions ruled—nowhere do we find conscious recognition of this activity as a true motive underlying the choice of subject-matter.

Taken from a point of view of the children's interest and activity, certain main reasons for giving elementary science a place are so apparent that they can almost be taken for granted. First, children show natural interest in observation and experiment. This experimentation is, of course, only one of the child's activities going on almost unheeded and constantly, unless checked by artificial conditions. That these limiting conditions exist in most children's lives is very apparent. That children have consequently lost this active interest in objects and phenomena is a common observation. Even granting, however, deficiency in the technical training on the part of the teacher, something more is necessary to explain the dulled observation and lack of interest found in children of from twelve to fourteen years. For some years the following questions have been asked by teachers in the secondary schools and in the university: Why has the nature-study of the lower schools not counted for more, as furnishing both data and methods of observation and experiment? Why is it that so often we find absolute incapacity to see or to formulate accurately the simplest observation? Granted the premise, as stated above, that the child possess an experimental attitude toward, and an active interest in, natural objects and phenomena, it follows as a necessary corollary that the right treatment of this attitude would preserve these natural interests. The problem, as it now stands, is to discover the form which this general interest takes at different stages of the child's development, and how this natural and spontaneous experimentation can be profitably used as a basis for later scientific work involving conscious abstract formulation.

In solving this problem, the first question to be answered is what suggestions as to method and subject-matter are furnished by the spontaneous interests of children at various ages.

In a cursory examination of the articles on this subject published in the various periodicals conducted by teachers themselves, and by scientists and educators interested in the problem from a theoretical point of view, the methods which have been used may be found classified into four schools. As there are many courses of study which are not included in any of the four

groups described, this classification, it must be understood, is a very rough and general one. First, and apparently the most generally used, is the one described by Mr. Hodge<sup>1</sup> as the knot-hole method. Incidental material called nature-study is used as a basis for all forms of expression work. This material is chosen from the teacher's point of view, largely with the idea of correlating the child's outside life and school life. The method seems to be that used in so-called object-lessons of any kind — chiefly description by child or teacher, with some attempt at classification and the loading in of any bits of information which arrest the child's attention. As a result the subject-matter material is unrelated, and to a great extent dependent upon accidental incidents in the child's or teacher's experience. The method of using this subject-matter is either not defined or else not adapted to the period of the child's development. The best organization of material on this basis is found in Cornell University "Nature Study Leaflet Series." In this classification might be included the attempt on the part of scientists and teachers to select bits of the child's physical environment and to systematize them with some regard to the child's interest as affected by the seasonal changes. As an illustration of the effect of such a point of view might be quoted the remark of a very intelligent teacher who was about to undertake work in a country where there were no such marked seasonal changes as occur here. "I do not see," she said, "what I can do in children's nature work when I have no changes of season to afford occasion for it." In a few cases we find in this incidental use of physical environment an individual teacher insisting upon the fact that a child's activities are a necessary factor in the choice of material. In such instances, therefore, there will be a greater amount of experimentation on the part of the child than is generally found in nature-study conducted on this basis.

1. The characteristic phrase of the second school is "the organization of the child's world of nature"—with much stress on the child as the focal point—while the organization is all from the adult's point of view. The ideal seems to be a scientific inter-

<sup>1</sup> *Pedagogical Seminar*, Vol. VI.

pretation of the landscape. To quote Mr. Hodges on this point: "All the earth and all sciences are cut up into sections, and are given out in small slices each year, as suited to the child's comprehension, with special emphasis on technique." The progressive step taken by this school seems to be an attempt at organization of material, but it is a question whether this organization proceeds from the teacher or the child. Might not the ideal be stated as power to be gained through observation, accompanied, or followed at a respectful distance, by inductive reasoning? General truths are laid down as propositions to be proved, or in the forms of questions to be answered. Are these questions the child's or the teacher's? If necessarily the teacher's, is there any application by the child of the proposition proved or the question answered? The final aim seems to be the realization by the child that he is the focus of innumerable forces so bearing upon him that the knowledge of how they can be controlled shall appear to him as a necessity. The statement is made that the child's life is the center, but it seems to play too much the part of a mere focus of forces without taking into consideration the child's choice in reaction to these forces. Does not this method ignore the fact that the child's power to use his abstraction is a test of his actually forming it for himself? Does it not take for granted a universal interest on the part of the child, that, as all things touch him, they therefore interest him?

A third school might be called the Agassiz school. This starts with the organization of scientific material from the adult scientific standpoint. Here the child's interest is unconsciously taken for granted by the teacher, from past experience. It might be suggested, however, that the formal nature of the other subjects in the curriculum, where the child's activity is not largely called into play, has made it possible thus to assume from experience this interest in nature-study where activity finds opportunity. We find successfully given a series of lessons, say in elementary physics, all planned so as to demonstrate two or three general principles. The same absorbed interest in formulation or abstraction is demanded from the children as that used by a scientist in investigating his particular subject. Machines and the use of

familiar forces concerned are skilfully interspersed, but the motive is assumed to be the end, that is, the formulation of laws and principles. On the biological side the same attitude might be illustrated by a series of monographs on the various forms of animal life, where detailed attention is given to morphology, with only an incidental line or two on modes of life, habit, or functions.

Perhaps the most salient point is the general insistence on the value of inductive reasoning.

The most recent of these schools is that which claims the title "evolutionary." As a result of investigations into children's activities, conducted largely by untrained observers using the questionnaire method, certain general conclusions as to the nature of children's interests are drawn. The child's interest in natural phenomena is due largely to the personal imaginative element. Animism is the placenta by which the love of nature is nourished, and stimulated to grow toward its maturity—scientific interest. Here we find the statement that the whole of nature is adapted to the child's understanding, and that all natural objects and phenomena, studied in their natural relations or settings, constitute actual nature-study. The two sources of knowledge seem to be as follows: development of man's relation to nature in the past, and study of the spontaneous interests of children; while, as a third and minor point, a necessary understanding of the psychological laws, as indicated in the quality of knowledge and nature of interest in general, is suggested. In taking Dr. Hodge as an illustration of this school, we find that he states his method as following the development of the race. But in his indications of how he would apply this study of race-development he seems to leave out men themselves. He insists on the educational value of domestic animals. He has gained from experience sympathy with children which makes him urge the value of the relations established through a child's care for his garden and animals, but suggests no use of the evolution of man himself as furnishing material for the direction of the activities of the developing child.

He appreciates the value of a knowledge concerning the eco-

onomic relation of man to nature in many particular instances, such as that gained from the study of injurious and helpful insects and animals, but suggests no use of the experimental attitude as leading to further control through a scientific understanding of forces involved.

In an article by Professor Dolbear on the place of science in education is found a very clear statement of the necessity of a scientific study of the child himself, with the object of ascertaining just what race-habits of thought tend to survive in the present. This insistence, however, is largely enforced by statements on the negative side. He insists that the ideal of education in the past has been to attain by repression of race-instinct an entity called "mind," which, according to the teacher's idea, has seemed to be a machine calculated to take certain facts given and to react upon them in accordance with a pre-established order. His positive suggestions relate to the indications furnished by modern physiology, that the wisest course in modern education is that which involves the least prescription and rigidity of work and the greatest amount of expression with guidance. He insists that the connection between the use and growth of the mind, as indicated by neurological research, has been misinterpreted by those who thought they were applying the principles.

The suggestions in my next article, as to what changes or modifications of the above points of view can be furnished by a consideration of the problem as involving the application of psychological law on the side of an understanding of the child, guided by general conceptions of the content of the various sciences in the selection of particular subject-matter, are, from the nature of things, individual and tentative, and should be so; but the general principles, those from which every experience must work, remain the same.

KATHERINE B. CAMP.

THE UNIVERSITY OF CHICAGO  
Laboratory School.

[*To be continued.*]

## PRIMITIVE HISTORY IN PRIMARY GROUPS OF THE LABORATORY SCHOOL.

### I.

SINCE Froebel's development of his fundamental ideas of the use of occupations and plays in the education of little children, there has been little or no systematic attempt to extend the use of his main idea with children of more than five or six years old. The material used in the education of children has been of a miscellaneous, sporadic nature, the selection dependent largely upon the individual interests of the teacher and children. The aim has been, up to the last decade at least, the acquirement of the tools—reading, writing, and arithmetic. Observation of the child's natural interests has brought about the utilization of many of the spontaneous activities of children. The present use of Indian life is an illustration of change due to this outside influence. This has been helped, perhaps, by the convenience to the teacher of Longfellow's literary expression of this life in *Hiawatha*. The adoption of this material has been rather general. In other cases the introduction of handwork in its various forms has suggested to intelligent teachers the use of the social background of such typical occupations as that of the carpenter, lumberman, and miner. The problem undertaken may be stated as follows: to use as a basis for school work the development of primitive society through the evolution of occupations, from the point of view of discovery and invention, in such a way as constantly to utilize and enrich the child's own daily experience of occupations in modern society.

The secondary reason for selecting this material is that only in this way—that is, through the use by the child of his experience—can he become conscious of that experience, and rationalize what otherwise would be in danger of becoming a very complex and confused succession of impressions. As has often been stated, the modern city child, and even the country child, no longer comes in contact with either things or society in the

making. He is placed in the midst of most complex material and social conditions, and while of course the natural tendency of mind enables him to select and use certain phases of this complexity of life, yet, as in all education, it would seem possible, by selection and organization of typical activities in their simpler phases, to assist him in getting an intelligent understanding of what goes on about him. Unless he does so amalgamate this material furnished by primitive life and occupations with his daily experience, it is obvious that the dragging back to simpler conditions will be a forced and unnatural way to approach the child. The same general reasons govern the selection of material for children in any year of the first period (ages from four to eight), characterized as the period of direct activity, and apply, with some modification, to the special year in school selected for this experiment. The year selected will correspond roughly to the second grade in the public school, the age of the children varying from six and one-half to eight. The work has been repeated during five years with five groups of children, the groups varying in number from eight to twelve.

While the child at this age is still absorbed in the activity he is carrying forward, it is possible to make the consciousness of the end of that activity more definite and distinct from the process than in the preceding year. With a dawning consciousness of interest in understanding the occupations of the people about him, he is ready to begin to initiate conditions for himself, and to meet the kind of simple problem occurring in primitive existence in supplying the chief needs of food, shelter, and clothing. In the years preceding this he has been satisfied to do what other people are doing, largely from an interest in the persons he is imitating. He has been entirely absorbed in the sense of power gained in carrying out processes whose ends are very familiar and direct, especially if the interest is made continuous by the manipulation of new material. For example, in cooking, the chief concern is in the preparation of food to be served as a luncheon; yet his interest in the cooking itself as a mere activity is so great that he would be satisfied simply to cook, if it could be thought wise for other reasons to separate the process from



its social end; whereas in this next year he turns his attention to the learning how to carry on each process involved, and carries over what he has gained at school in work by himself at home, where the conditions are necessarily more complex than at school. At this age he would find it stupid to carry much farther processes by mere imitation through his desire to do what others do, and demands work in which he feels himself to be more the originator and manipulator of conditions. Many people have urged that the child would come more naturally to his understanding of society if the material used for the school work were taken directly from the modern conditions about him. If the work that he did and the problems he met were selected and simplified from among those met, for example, in the construction of a modern house, such as the one in which he lives, he would be employing the most direct and natural method of bringing his present into consciousness. Aside from the fact that what the child needs in order to become conscious of the familiar is not more of that same familiar, but some use of it under new conditions, most modern occupations, as they come in contact with the child, do so only in isolated phases of such complicated form that to use them *in toto* would simply bewilder and confuse the child. But given the principle of the main processes involved in each occupation through his own activities (the only way in which he can really attain the experience), he can, for example, look at the process involved in making the iron or steel tool he is using with interest and understanding. The Illinois Steel Works are simply doing in a larger way, and with a tremendous efficiency which he appreciates, what he has attempted in his lead-casting and molding. Another element which makes initiation in experimentation a possible factor through this choice of primitive social occupations is that the simplification of conditions makes it possible to have the child's activities depend directly on the nature of the materials involved. The complications resulting from custom in certain conventional matters of procedure are swept away through this return to primitive conditions, and the child proceeds freely without needless let or hindrance. He makes his clay dish with regard to

the nature of the clay as well as the purpose and the kind of material it is to hold. It has been interesting at times to see the struggle between the impulse to imitate dishes he has seen all his life, which for various complicated reasons have certain forms and sizes, and the motive with which he started out, *e. g.*, to make a jar for storing water or grain. It is just because this adaptation to use is so direct and so simple in such primitive tools and processes, as in the making of the water-jar, that it is possible to make the child responsible both in initiation and in result. The factor of the unknown and the unknowable is not present; he knows that he has all the material and much more knowledge than the primitive woman who first undertook the making, and tastes the first pleasure of discovery when he has solved the problem.

The variety afforded by the number of occupations necessarily a part of the simplest existence, involved only in their beginnings, insures contact with all kinds of material, without demanding that finish in either process or result which is impossible to the child of this age. The essential thing is to secure the attitude of initiation and discovery along with the conscious use of this very rich experience of materials and people. As will be stated more fully later, the special opportunities given by contact with crude materials afford perhaps the only way in which the child can attain confidence in himself. He knows that he could not possibly produce any of the tools, utensils, or modern products which he constantly employs, but he can be satisfied with his attempt at the primitive tool or utensil. Having once met conditions successfully and worked with materials from this point of view, it has been made evident in the course of experience that he does apply this knowledge and method in understanding any modern implement or tool. It may be necessary, perhaps, here to add that along with this primitive occupational work at least two lines of work are carried on as a part of the school experience, which involve the use of modern equipment and where the child can apply this intelligent method in solving problems under modern conditions. In his cooking and carpentry work he works with all modern conveniences. He cooks

with gas, which he lights with matches, and applies heat in the various ways made possible by ovens, double boilers, steamers, as well as the more primitive broiling over coals and boiling in water heated by hot stones. He cuts his branches with a modern saw and shaves his wood with the steel edge of a knife or plane, with much more appreciation of the effect he produces, because of the contrast with the jagged edge of the sharpest broken stone, and the ineffectiveness of the finest polished stone ax or scraper of the primitive peoples he is playing.

His materials, such as his lumber, appeal to him as the end product of a long series of occupations, which he has summed up when, for example, he cut his branch from the tree and removed the bark before using it as a spear-handle. The vegetables he cooks in the kitchen—roots, stems, or leaves; all parts of the growing plant, in which have been stored some materials which can be made by proper treatment valuable as food. The way in which he makes them available by the application of heat involves more control of conditions already handled in simpler form in the primitive cooking he has experimented with.

Perhaps the chief value of this subject-matter comes out upon the side of its value as primitive social organization, developing to some extent parallel to the child's ability to effect like combinations in his class or among his playmates. The gradual change from very slight organization involved in the earliest processes proceeds by gradual steps to the more complicated processes of early civilization, which are complicated enough to tax the child's powers. The child must use this development of organization as a key to his own daily experience, otherwise upon this side, as well, could the subject-matter be looked upon as extraneous and forced from without. Spontaneously he has already begun to ask questions which show that he looks upon the world about him as having had a past in which things were done differently. Through this conscious use of his present in the reconstruction of this vague past, each occupation or process with which he comes in contact is given a hold upon his interest and imagination, through its suggestion of relation to other occupations past and present, which satisfies

his advancing intellectual interest. At this age, even in his play, mere activity no longer satisfies, and in place of mere activity and sensation he demands some end, some logical order of events. It is hoped that in the narration of method in more detail, this point of the child's consciousness of his present will be seen to have the place its importance demands, and the objection to the use of primitive life as too remote both in time and experience will be fully answered.

In the following narration of events and methods used, it is to be understood that the child's environment is that of the city child, set off from daily contact with primitive conditions and processes. Through his outing experiences in the summer he has come up against conditions which will afford a safe starting-point in the development of the primitive forms of man's chief needs of food, shelter, and clothing. It may perhaps be interesting to add here that, although in most cases where this work has been undertaken there has been a past experience of occupational work involved in the carrying on through the two preceding years of household, neighborhood, and simple typical modern occupations, yet it has also been found possible to use the same material with profit with children whose experience has been simply that of incidental contact with occupational life in city and country. The age at which it is advisable to begin work of this character, involving initiation on the part of the child, will differ with environment of children concerned. From some experience with children in very limited city environment of the slums it has been found that children two or even three years older begin to be capable of such initiation.

In characterizing a child of this age, one would say that his chief interest is in persons. As contrasted with the more isolated country child, his power of initiation socially is great. Even with older children or adults he feels quite equal to the situation socially, whereas on the side of manipulation of material he is usually quite helpless in initiating the simplest process. It seemed best, then, to meet this need of these particular children by beginning with the least complex conditions of food, shelter, and clothing, involving no social organization in its larger sense

at all. The child's general attitude of pleasure in activity seems to be all that is needed to stimulate his efforts and interest in investigating the nature of different foods, for example such as roots and nuts, with the view of ascertaining the proper method of preserving or cooking them; in fact, he seems to need no stimulation aside from contact with the materials themselves.

Because of this social attitude of the children, one of the problems in carrying out the use of this material educationally is to maintain the balance between the child's interest in the personnel of the story and his attitude toward the conditions presented as involving initiation and experiment on his own part. The work has been carried on in several different ways. One year the attempt was made to have the children as far as possible carry out in their school work the daily life of typical primitive peoples, without regard to the characters the children assumed as taking part in any continued story of events. Another year stories, such as the story of Abraham, were used as furnishing the thread in the carrying on of the primitive pastoral life. But as the result of evolution of the last three years, the following method has been found most successful. The children begin with the interest in the daily life of two persons. First the interest is only in the story; gradually the children identify themselves with the persons concerned, and their interest becomes more dramatic. The story is continued by the children, with occasional help from the teacher. The transition from one type of people to another is made through the contact, by trade or exploration, with other peoples in different physical surroundings. The use of story, like that of *The Story of Ab*, by Waterloo, has also succeeded. The story was read each day, and furnished the main thread for other similar stories invented by the children or teacher. The experience of the children seemed to furnish reason for choice of a more original method in one case, whereas the interest in the story in the book seemed greater in the other.

As has been stated, the children's summer outings furnish a background by the use of which it seems only too easy to give the child a sense of primitive conditions to be met in obtaining

food, shelter, and clothing. It is not difficult to give the child, by taking away one by one all his present comforts and necessities, a feeling first of helplessness and then of pleasure, in the effort to meet the difficulties of this imaginary environment. In reproducing this early struggle for existence, the sensational side of fear of animals, and of suffering from hunger and thirst, is passed over lightly. The story of the daily doings of a father, mother, and child furnishes instances and conditions out of which the problems of providing food and shelter arise. These first stages of arboreal life demand only the kind of narrative easily within the child's possibilities. One important factor in developing as far as possible the feeling that these events occurred in the remote past, is the proper appreciation of the child's own feeling of time. It may be said, speaking foolishly as an adult, that he has no sense of time, at least such time as is here involved; but his own life seems very long to him, and he gets the sense of remoteness most vividly as expressed in the lives, first, of his own immediate ancestors, and then of a long train of great-grandfathers. The changes which time and habit have made in the appearance of man himself, as well as the fact that the animal life of the time differed from the present, are continually used as helps in deepening this sense of time. Experimentation shows that this method is psychological. The attempt to produce this feeling of remoteness of time through summing up of natural changes in the landscape by the wearing away of streams and formation of valleys, or by the gradual alteration of climate through retreat or advance of an ice-sheet, fails signally, compared with the lively interest in following the development of the Eocene horse, the size of the fox, with four toes, through its various stages to the present solid-hoofed animal with which we are familiar. An illustration of the impression produced is given in the class story.

It is hardly relative to our purpose to gain more than a general sense of the duration and rate of the process of this evolution. That the children do gain a sense of time and a feeling for the existence of simpler conditions is also shown by the way in which they react to any slip made by one of their number

introducing a modern invention into a story of the past. The children very soon question the sources of our information concerning these early stages, and show great interest in all the ways in which men can reconstruct these primitive ages. Their interest in the anthropologist's discoveries, in the opening of ancient caves and kitchen-middens, was shown by their immediate use of this information to check the stories told by themselves or the teacher as to historical accuracy. For example, when they were discussing what foods the people used, and whether they cooked them at all or not, they would say: "We will have to guess that, because there is no way of finding that out from rocks and caves." But upon reflection they agreed that it would be easy to deduce the method of cooking by the character of the cracked and charred bones found in the débris. The pictures of animals scratched on the rocks by primitive man appeal to their artistic sense and prove quite an incentive to similar efforts on their own part.

As the story proceeds, in part told or read by the teacher and in part growing from suggestion and incident contributed by the children, it sometimes happens that the children have had so little contact with crude food materials that the larger proportion of time can profitably be spent in the actual handling and investigation of the ordinary properties of plants, stone, woods, etc., which would be very familiar to another set of children. It has occurred also, in taking up the topic of the chief needs of man, that the question of clothing and shelter had to be met before that of food was considered, as might well be the case with children who had never been hungry. The need for water, however, is always spontaneously mentioned first, for thirst still falls to the lot of every child. Under heading of food, the flesh of animals that they would kill is the first suggestion. It is only by making every possible connection through their own daily food, considered from the point of view of its natural state—as roots, stems, leaves, berries, and seeds—that one is able to build up gradually the idea of man's dependence, now as well as then, upon vegetable foods which are less exciting in the getting. When the need of clothing is reduced to a mini-

mum by the choice of a warm, equable climate, the children have mentioned ornament as the reason for possessing it. For the first forms of shelter and protection from enemies, trees and caves are inevitably suggested; just as inevitably, however, must the choice of the sophisticated city child—wigwams, tents, and brush huts—be rapidly swept away by the need to move freely in the search of food.

The advantage of fire as a means of protection is generally second to that of warmth or for cooking, but even here incidents of a wild animal's fear of fire have been found in some child's experience. The origin of fire, and of man's use of it, presents but little difficulty to their imagination. Curiously enough, lightning and fire of volcanic origin have often to be contributed by the teacher. The way in which the various inventions for the production of fire were taken up by the class is given here as an illustration of the kind of experimentation involved in all processes occurring in the process of their reconstruction of the story.

As friction as a source of heat has generally been a part of their past daily experience, only the connection between the heat from friction and the possibility of so increasing it as to produce fire is new. They are given strips of dry wood to rub together to recall the relation of heat to friction. They then state the fact that their problem is to make it great enough to produce fire. The method of procedure from this point varies, of course, with their past experience. Although they have seen fires made, perhaps many times, yet their lack of previous attempts to control conditions for themselves makes the interest in it rather concentrate upon merely the sensational sides—power and color of the flame, the volume of smoke, embers, sparks, and the glowing of the embers; and it is necessary to let them repeat the experience of making a fire, using modern means of kindling, many times, before they could even manipulate the easy modern conditions, because of this sensational interest getting in the way and interfering with their experimentation; so that very often this discussion of fire drills and invention of ways of making fire and preserving tinder must be left until later in their work.



If in their first attempts they formulate the idea that different materials require different amounts of heat to catch fire; that air is necessary, but must be limited in amount, as it is both servant and master, carrying away heat and yet necessary to combustion, and so helping and hindering, they are then ready to attack the problem of igniting tinder by the rubbing of two sticks together, and can at this point appreciate the fire-drill of the Mexicans, or any other method of producing fire by a friction of wood. The experimentation with fire is not dropped here, but carried on all through the year, in connection with some such processes as the actual roasting of food, melting of metals, or burning of pottery, in which process attention to the kind of fuel, kindling point, access of air, etc., is absolutely demanded.

Here in these later stages of experimentation the direct application to modern grates, furnaces, and different methods of heating can easily be made, whereas it would have been impossible to have used a modern furnace as a starting-point and basis for experimentation. In their own difficulties with the kindling of the open fire, even with the help of modern conveniences, they begin to realize the conditions met by the savage, in what seemed to them a very easy problem. This also brought to consciousness the problems involved, not only in the furnace and grate, but in the bringing of the coal from the coal mines to the city, the transportation to the house, as well as in the piping of the gas, manufactured and natural, as intelligible and interesting topics to the children. On one occasion, in the winter, the pressure of the gas was so low that their potatoes were not cooked for luncheon. Their remarks showed that they had a clear idea of the piping of the gas, and a few words of explanation as to the cause of the low pressure were easily understood.

The same method of approach and experimentation is followed with each problem. The interest in weapons is, of course, hardly second to that of fire. Sticks as clubs and stones as projectiles always come first on the list. Then the weighting of the sticks with sharp stones to make the war-club, the use of

slings to increase the efficiency of the thrown stone, are always forthcoming. The selection of stone for weapons involves the same kind of experimentation as that given in the case of fire. The interest which the children seem to show at this age in stones, merely for their smoothness, their color, or some other striking quality, is very easily directed into intelligent consideration of the qualities necessary for use as weapons. They soon learn to select stones with respect to friability, method of cleavage and hardness, just as previously they had been selecting for their own purposes, because of color, smoothness, shape, etc.

This interest once directed toward investigation of the appropriateness of this material for one use, carries over into a general interest in that material for its modern uses. To show this it may be mentioned that during the whole year the children were continually bringing stones to school, roughly classified as water-formed, sedimentary, crystalline, and fire-stones, or, as they learned the term, igneous rocks. They brought many observations as to the kind of stone used in building, and discovered for themselves the reasons for men nowadays making stone (cement) in preference to getting it from the earth's rock-bed. They formulate their own method of testing the stones they are to use for whatever purpose they have in mind. They always select slate in the beginning, as giving a delightfully sharp edge for a knife or any other weapon, and regretfully give it up on discovering its untrustworthy character, as it splinters against the hard wood which is their test material.

KATHERINE B. CAMP.

SCHOOL OF EDUCATION  
Laboratory School.

[*To be continued.*]

## ELEMENTARY ART TEACHING IN THE LABORATORY SCHOOL.

### I.

A STUDY of the relation of art to education leads at once to the question of ultimate aim. Should this aim be utilitarian, æsthetic, or ethical? The psychology of a creative experience in art would seem to solve the question, for it is self-evident that such an experience contains all three of these elements. The isolation of end is an idea which exists only in the highly developed consciousness of the theorist. The technical training which is necessary for an æsthetic creation does involve processes which are of value in helping the individual to deal with the general problems of life. If one is inclined to dwell upon the sense-training, power, and control of conditions incident to expression, he may conceive of the aim as utilitarian. The generative force, however, is either æsthetic or ethical. Therefore, this technical training is not an end in itself, but is dignified by the creative impulse which controls it. It seems necessary to state continually the fact that art is a unity, and that whenever either of its phases is unduly emphasized there is no real art experience. There are two extremes in instruction, both of which fail in maintaining this unity. One of these is uncontrolled self-expression; the other is a technical training so formal and unadjusted to the individual that it does not permit of any self-expression. The whole problem seems to be the development of the creative power, and along with it the technical facility which enables the individual to express himself adequately. This statement should not be understood as depreciating the value of strong draftsmanship or of the most thorough discipline in all that makes up the technique of art. It is intended to emphasize the point, however, that this is not enough. In evidence of this is the well-known fact that in the majority of cases the product of the academic system can reproduce only

what is before his eyes. This condition does not seem to arise from lack of subjective ability, but rather from the fact that academic methods have made it possible for a student to achieve a brilliant technique without acquiring any process by which he can draw from inner resources and give them concrete form. That the academies themselves recognize the weakness is evidenced by recent strenuous efforts to strengthen the work in composition. Owing to this condition, art does not today express that which is most vital in the life of the age, nor does it enter into the crafts as it has during all periods of great creative activity. It is only when the commonest things of life are honest, harmonious, and beautiful that art becomes the expression of a people. This can never be until instruction contains these two elements properly unified.

To obtain this unified end involves, on the language side, the question of how much technique is needed at the different stages of development, and of how to bring this to bear upon the individual. It involves, on the other side, the subject of interests and how to encourage the expression of these interests through the art medium. Otherwise stated, it is the problem of motive and content and form and method.

Since 1898, when art work was begun in the Laboratory School, experiments have been directly aimed toward the solution of these questions. The first point of approach would seem to be that of motive and subject-matter. Are the basic art impulses of different ages general enough to admit of classification? Do these impulses differ from those of the adult, and, if so, when do they become adult in character? How are interests affected by environment and school organization? The other side of this question is: At what age are æsthetic principles formulated from the adult standpoint to be presented?

The question of the fundamental source of the child's art impulses is a difficult and complex problem. The more experience one has with the living child, the more impossible it becomes to make any generalization. If one assumes the racial recapitulation, he meets the sophisticated instincts of inherited civilization. If he forces advanced standards upon him, the

primitive tendencies rise in contradiction to his theory. Any general classification must be too dogmatic, yet the questions which depend upon it demand a working basis of some kind. It is only on that ground that one is justified in assuming any phenomena as conclusive, and he must do so knowing that each individual is a protest against it, and in some particular an exception to the rule. During the first decade of life consciousness is limited, and the manifold interests of later years exist in an embryonic state, bound up in the few activities which constitute the primitive whole. In this whole there is not enough differentiation of interest to afford recognition of art aims as apart from the central motives of life. The premise stated that all real art expression is generated by an æsthetic or ethical motive. This expression may be no more than the girdle or clay bowl of the savage, but the instinct which prompted him to cover them with lines and colors, arranged in orderly manner, is the rudiment of the same impulse which produced Greek art. So the child certainly has a decorative interest, but it is amenable to no law but that of instinct. Drawing and modeling are not expressions of interest in processes, but of some thought or feeling emanating from this simple life-experience. The early experiences and impulses seem to be largely motor. The idea of form is gained first through touch rather than sight. The child who dramatizes an action for the class makes the best figure drawing. Man and animal in his world are always doing something. A line at the top of the paper for sky and one at the bottom for ground are universally the first expression of landscape. Investigation shows that this is the motor image of the distance between these two great planes.

One might describe this as a story-telling motive. It seems to begin with the first meaningless smudges—meaningless only to the adult, for the child interprets into them endless variety of events. Through the reaction of expression consciousness of visual truth is constantly increased. The interest gradually becomes more complex, being not only motor, but visual and technical. Generally speaking, this condition is apparent somewhere between the eighth and ninth years. There is a time

when there is evident desire to do a thing because it looks big and difficult, and because of pleasure in manipulation of a certain medium. The application of the objective standard to his work also stimulates a demand for a more accurate visual symbol. These complexities are apt to mislead. They may be considered as indications of the kind of technique needed, rather than as a change in controlling impulses. The group may at one time want to model a pet dog, at another to paint an attractive flower; but if the teacher assumes that interests have become purely objective, and consciously æsthetic, a lethargic class will prove the mistake. Judging from actual experience, it is safe to say that up to twelve or thirteen years of age the creative stimulus is largely story-telling or decorative. A number of twelve-year-old students not interested in any form of technical work which would have been of benefit to them, and consequently disorganized, were transformed into a deeply earnest and enthusiastic class. The change occurred as soon as they undertook to produce a frieze for their history room. Paul Revere's Ride represented in nine panels, the composite work of the entire group, was the result of their three months' effort and stimulated them enough to restore normal conditions.

Between the ninth and fifteenth years there is a slow progress toward the adult art motive. There are no sudden transitions, but the mind gradually recognizes and enjoys form, line, and color as expressions, not of the story, but of the space art in which the aim is the expression of beauty. It is important for the educator to know when this transition takes place in the individual, and how to help it along. It is a difficult matter to determine. Evidences of natural taste are easily mistaken for conscious interest. The child himself is most reticent about his subjective life. Owing to the fact that, irrespective of age, young beginners seem to pass through the story-telling period, it is necessary to continue an experiment a number of years before acquiring any reliable facts. In making bas-reliefs representing incidents in the life of Marquette, a lesson in composition was appreciatively received by a nine-year-old class. It was subordinate, however, to the illustrative motive. In the tenth

year indications of the æsthetic interest are more numerous. There is a desire for neatness and finish, so that Japanese materials—ink and rice paper—have been used. Incidental to the designing of colonial furniture to be made in the shop, the idea of proportion developed. In these designs it was evident that growth in artistic feeling had taken place, though formulated æsthetic principles had never been presented to the children. The weaving which was carried on in a textile course afforded opportunity for design. They recognized this as a slightly separate element, but did not care to make a design unless the loom was warped and waiting.

From thirteen to fifteen the æsthetic principles, as formulated by Mr. Arthur Dow, were presented to the students.

Their interest in space art was quite as strong as the story-telling motive had been with the six-year-old class. In brief, when art instruction is properly unified, the creative motive always affords a stimulus. This creative motive begins in the decoration of hand-craft, and in story-telling in which the æsthetic element is an unconscious and instinctive manifestation. It gradually passes over into a differentiated art motive in which æsthetic impulses are experienced, and consciously expressed.

All organic growth must progress through a process of assimilation. Without the craving for food there is little possibility for proper nourishment. The efficiency of technical training depends, not only upon the teacher's organization of material, but upon the student's consciousness of need. It is only when the creative impulse causes the demand for art expression that technique can be converted into terms of experience. When this motive is at all times active, it is possible to develop a definite technical sequence, adjusted to the evolutionary stages of mind. Because it is only through the idealization of his own life-experiences that the individual can get an æsthetic training, it becomes necessary to develop subject-matter from those ideas and feelings which have taken most vital hold of consciousness. In the laboratory the history and social occupation afforded such stimulus, and consequently subject-matter grew out of these. Under other school organization the reading and life outside of the school afforded the strongest interest.

When work was first organized in the laboratory the ages ranged from six to eleven. The children belonged to a class which had seen art productions and formed high standards. The result was that a disgust for crude efforts created an aversion for the work. Lack of confidence began with the ninth year.

LILLIAN S. CUSHMAN.

THE UNIVERSITY OF CHICAGO  
Laboratory School.

[*To be continued.*]



## ELEMENTARY MUSIC TEACHING IN THE LABORATORY SCHOOL.

### I

THE general problem in the music work of the Laboratory School is how to arrive through class instruction at the child's appreciation of good music. The work proceeds on the basis that an emotional response to beautiful music may be present in the life of the unmusical as well as in that of the musical child—that is, that every individual may become intelligent musically. On the principle that the knowledge of music symbols and forms is useful to those only who have an impulse toward musical expression, the chief emphasis is not laid upon acquiring sight-reading, but rather upon the awakening and fostering of a feeling for melody and harmony. A carefully graded series of steps leading the child into a knowledge of symbols can be used with profit only where children have sufficient musical gift to be specializing in music. In this school we have made experiments to find common avenues of approach to music for the various grades of musical gift in an average class. The members of the oldest group have this year shown a discriminating taste, a quickness of apprehension, and an enthusiasm for their song work which would prove that much of the experimentation has had the desired results. Their present repertoire is composed of songs which they have chosen or accepted as desirable: "The Wanderer's Night Song" (two parts), Rubinstein; "The Lotus Flower" (two parts), Rubinstein; "Aurora Borealis" (two parts), Rheinberger; "Heidenröslein," Schubert; "Hark, Hark, the Lark," Schubert; "Who is Sylvia," Schubert; "The Wanderer's Song," Schumann; "The Hunter," Schumann; "Morning Song," Grieg. All of these songs are sung without notes, and are thus thoroughly their own. The one or two members of the group who have risen from the ranks of the "tone-deaf" and whose intonation is occasionally faulty, share the interest and may fairly be called musically intelligent.

Experiments have been made as to the most desirable period and method of presenting ear-training, rhythm, sight-reading or notation, song-singing, and song composition. Formal work has constantly been subordinated to the chief object of the music work in the school — the awakening of a response to beautiful music. No experiment has been considered successful which has jeopardized the interest in such music, or which has deteriorated into drudgery for the pupil. In a second-year class of restless children, principally boys, popular war songs have been resorted to to hold the interest until higher music and more serious work could be attempted.

#### EAR-TRAINING.

If ear-training be commenced in the kindergarten, much time is saved. During the past year for a ten-minute period per week the kindergarten children have had this work with good results. It is unnecessary that a child should come to the primary class with the "talking tone." He can comprehend the idea of interval as readily at the age of four as at six, if it be presented to him. The work has proceeded in the following manner: The teacher has sung a single tone with "ah" (about middle *a*), to be imitated by each child in the circle individually; next has given an interval, a major third (*f-a*) to be imitated in the same way; and later a phrase of three or four tones varying according to the attainment of the child. Antiphonal exercises to induce quick comprehension of an interval have been tried with good result, the children repeating in unison a rhythmic phrase given by the teacher, as —

| Teacher. | Pupil. | T. | P. | T. | P. | etc. |
|----------|--------|----|----|----|----|------|
|          |        |    |    |    |    |      |
|          |        |    |    |    |    |      |

The most difficult exercise, the ascending scale, has been introduced (in the key of *d* or *e*) by words such as—

Up in a tree Cherries I see, Some are for you, Some are for me.

Finally the *sol-fa* names have been given. The more gifted children are singing the ascending and descending scale with syllables correctly. The others, who are slower in musical expression, have at least been awakened to a recognition of eight pitches in the scale, and of the fact that these pitches are used in our songs. Thus a first step in their musical development has been taken.

A device for the six-year children, which induces tone-thinking, is to allow them to sing the ascending and descending scale, each child singing one tone. As each one in turn wishes to be *do*, the drill is prolonged without loss of interest. These children are given the antiphonal exercises in two-, three-, and four-pulse measure-rhythms for quick comprehension of intervals. They are next led to feel the difference in quality of the various incidents of the scale. The "home-tone," *do*, is the most easily recognized. After its quality is felt, the broken triads on *do* and *re* are given to the class, at first without their syllable names. Such words as "the day is bright" and "the day is dark" being given, they decide which triad best expresses each. For convenience we call *do—mi—sol* the "joyful," and *re—fa—la* the "sad" three. By drill the children are finally able to recognize these sets given in any inversion, and later revert naturally to them as points of departure in notation or sight-reading. The bugle call, *veille*, is an interesting example of the joyful scale-incidents in various positions. The ear-training proceeds in conjunction with notation of the original songs, where inter-

vals of all sorts occur, which are to be named and written upon the staff. This work gives the pupils a facility in comprehending and expressing a musical idea; they gain what is commonly called a "quick ear." A striking instance of the facility acquired is the following: The twelve-year children were given aurally a new song which pleased them. They caught the melody immediately, learned its one verse of eight lines, and, finding the song too short, wrote a second verse nicely suited to the music, completing all in one half-hour period.

It is impracticable to deal with the obstinate cases of so-called "tone-deafness" in class instruction. The injustice to the individual and to the remainder of the class is obvious. During the winter of 1900 a special assistant undertook the individual ear-training of these children. She gave them two periods a week of five minutes each, with excellent results, reaching the following conclusions: The tone most easily produced is *g* above middle *c*. Although some children have great difficulty in singing this, yet by using the piano and keeping the tone alive so they hear it continuously for a time, they finally touch it and gradually learn to hold it. The next tone for children with naturally high voices is the *d* above, for low voices the *d* below. By grouping these tones, *g, d, g*, a trumpet call is formed, which is interesting and therefore easily produced. The trumpet call gradually becomes longer, and with the introduction of *b* more elaborate. The succession *g, a, b* presented great difficulty to these children, and *middle c* was found to be one of the last single pitches to be acquired. The descending scale was more easily acquired than the ascending. Special work along this line was carried on daily with a little girl of seven, who, in spite of flexibility of voice, was unable at first to repeat a given pitch. She had no conception of interval or melody. After three quarters' work, however, she was able to sing correctly a song of several verses, accompanying herself with pleasing harmony upon the piano.

#### RHYTHM.

The kindergarten child comes to the primary class with an unconscious rhythmic sense developed by the rhythm plays.

The primary class, which has not had such previous training, must be held back until a feeling for rhythm is awakened through the singing of many rhythmic songs. The first expression of rhythm is voluntary rhythmic motion suggested by the text of the song—rocking, pattering, drumming, etc. Not until this rhythmic sense is expressed can rhythm be profitably analyzed. We have used the swinging of the measure rhythm (given by Mr. Calvin B. Cady) as more suggestive of the continuity of melody than the disconnected beat. The process of analysis is as follows: The children are given a familiar song with strongly marked two-pulse rhythm. They are asked to imitate the teacher by keeping time to the movement through swinging the right hand. Each swing is called a pulsation or pulse. They are led to notice that one pulse is stronger than the other. The strong pulse is called accented. On each accented pulse they are to give a larger swing of the hand. After accomplishing unison swinging, the teacher shows them how to show, by connected circles drawn on the board, the rhythm of the melody. This process is repeated with three, four, and six-pulse rhythm, the children drawing the swings in exact rhythm with the music sung or played. In taking up the rhythm of a new song the teacher makes the class familiar with the melody by repetition, and then asks individuals to express on the board their idea of its rhythm. After this is done, the teacher sings the song according to the various drawings, and the class decides in which the accented pulses are shown correctly.

It has been found that the drill on rhythm may be profitably continued throughout the second school year. Later references to the subject come in the natural course of the music study. The complete familiarity with rhythm which this training gives does away with the subsequent beating of time while learning songs. The mental grasp of rhythmic progression guides the singing. When later the children express their musical ideas in song, they use their sense of rhythm as they do their sense of melody, experimenting with the various measure-rhythms to find which will best express the idea to be conveyed. For instance, the children of seven years of age completed a song, after con-

centrated work upon it for several periods, and sang it to the school. Such public performance of a song is usually felt to be as final as if it were put into print, but several of the boys felt so sure that after all their song would have been more effective in another rhythm that they induced the rest of the group to reconsider the matter. The rhythm was finally changed from three- to four-pulse, to the decided improvement of the song.

#### SIGHT-READING OR NOTATION.

Sight-reading or notation is commenced toward the end of the second school year. Since notation admits of more activity upon the part of the child than does sight-reading, we begin on that side. If a child can think a tone and place it correctly on the staff, he can conversely, when he sees the note on the staff, think the tone and utter it. Thus notation is a drill for sight-reading. Having become familiar through the ear-training work with the diatonic scale and the broken triads *do-mi-sol*, *re-fa-la* in all positions, the children are ready for a preparation for notation. They are given the facts concerning the *G* clef, the staff, and the names of the lines and spaces. The latter are memorized through writing of words on the staff by means of notes—as face, egg, bad, cage, cabbage, baggage, etc.—the teacher giving these to the children, and later the children to each other. This device has been found to retain its interest until a thorough drill has been accomplished. By experiment they find that if low *do* falls on *e*, high *do* falls also on *e*, etc.; and the idea of the octave is established. Actual notation begins here. A child makes a *G* clef, and by means of simple marks on the staff writes the scale which the group sings. The teacher erases first one and then two or more of these marks, and the children sing what are left (tone-thinking). To make a melody of what they are singing, rhythm is necessary, and they are led to see the use of rhythmic incidents—notes. To fix the idea of various values, one child writes the scale on the staff with whole notes, and the group sings it, giving the full value to each note. The next is asked to make these notes a little shorter, “so we need not sing so slowly;” the next, to shorten them still more: and so on until we sing the scale with sixteenth notes. Here the time signature

is easily introduced through their grasp of the rhythm idea. Knowing that the accented pulse begins the measure, they formulate the rule for placing the bar. Now they are in possession of the required tools for melody-writing and -reading. By dictation each child in turn writes on the staff one of the familiar broken triads so given as to form a melody. The reading of this presents no difficulty, and while they sing, the teacher adds a rhythm-harmonic background. This first success in reading a melody is a surprise and pleasure to the child which tides him over the next step to be taken—the reading at sight of new intervals. These are added gradually until he is taking at dictation any ordinary phrase. An interesting problem for the child is to take a short melody and, leaving the bars in position, to change the rhythm, using the various time incidents as required; or, by changing the position of the bars, find still other time problems. He is led to discover through his rhythmic sense that the melody he arranges must fill either four or eight measures. The object of encouraging the child to handle these symbols himself is to enable him to get a more vivid impression of them than he could by reading from a printed page. At nine years of age the children find this work an interesting game. One little girl frequently came early to school in order to “do queer things with time” by herself on the blackboard staff. The same method is followed in presenting the dotted note, rests, etc., although, as the notation of original songs begins at this time, many of the new problems are introduced in a more vital way by the requirements of the song. The children now have music copy-books in which they notate their original group songs as soon as completed. The songs are first written on the blackboard staff, each member of the group in turn doing a given amount of the notation. The process of notation is as follows: The teacher, having written the words of the song under the staff, plays a phrase from it upon the piano and calls for *do*. This having been correctly sung, the first child comes to the piano and locates this *do* to ascertain the key. He then plays the scale to find how many and what black notes are necessary for the signature. (Later through drill he memorizes

the various key signatures, for the purpose of shortening this slow process.) The clef and key-signature being correct, the next child finds the rhythm by swinging and places the time-signature. Next, by reference to the words, the strong pulse is located and a bar placed before each. The pitches are designated by simple marks on the lines and spaces. When these are all correctly placed, each child takes a measure and adds stems, dots, rests, or whatever is needed to complete the notation. When the song is correctly notated upon the board, each child copies it into his copy-book, where for the sake of compactness the words have been written by the teacher.

The problem of presenting the model scale and the various key-signatures in a vivid and interesting manner has not been worked out. The children have acquired a knowledge of these by the usual memorizing. At ten years they show a certain interest in acquiring facts, however, so the chief part of the memorizing is done at this time.

In taking up two-part sight-reading the teacher has put upon the board two-part exercises in various keys, allowing one half of the group in turn to sing each part, that no premature limitation of voices to the alto shall occur.

MAY ROOT KERN.

THE UNIVERSITY OF CHICAGO  
Laboratory School.

[*To be continued.*]



## ELEMENTARY HISTORY TEACHING IN THE LABORATORY SCHOOL.

### I.

WHETHER or not history can be taught successfully to children below the high-school age depends upon one's conception of "history." If out of the many attempts at defining it, that by Droysen, "History is humanity becoming and being conscious of itself," be chosen, then it is easy to understand, not only the possibility of teaching history to the young child, but the necessity, if he is to know himself and the society in which he lives. The problem thereafter becomes one of selection of subject-matter and of proper order of sequence.

Fundamental principles do not differ so radically in the study of physical and social sciences that they cannot be arrived at through either. A child's inheritance and training, even though he be but six or seven years old, may enable him to approach these fundamental principles more easily through one avenue than through another, as a teacher's inheritance and training may fit her to guide the child more truly along one road than along another; yet the end is always the same, and in history that end is an analysis of a complex whole to which the child is introduced upon becoming an inhabitant of this world. Through this analysis and comprehension must be secured the ability to work in harmony with the laws of physical and social forces.

Whatever section of the world's past be selected for the teaching of history, the aim is to enable the child to interpret society of which he finds himself a part, and his own part in that social whole. The way in which this can be done must differ with the age of the child, with his environment, and to some extent with the teacher who undertakes to develop in him power to modify his environment and to adapt himself to possible future conditions different from those by which he may at the time be surrounded. This report, therefore, of work in history is an

attempt to solve this problem for an average group of young American children.

The child of six knows, in a general way, that there are other families besides his own, and other occupations beside that in which his own father engages; but the dependence of families upon other families, and occupations upon other occupations, is made conscious to him in the kindergarten and first year in school, when his history is a study of typical social occupations.

The city-born child of today opens his eyes to a world of exceeding complexity, and unless his attempts to inquire into and comprehend it are to a degree successful, his efforts gradually cease and interest is confined to a very small area. The teacher's part is to make successful these early investigations, to stimulate to new investigations, and to develop power to interpret conditions. To do this she must see to it that the first conditions presented are simple.

A desire to find out where the bread and butter which he eats comes from may lead the child into a comprehension of the farmer's occupation and his own relation to it, to an understanding of processes which are as new and fascinating to him as the discoveries in his private laboratory are to the scientist. These processes are realities in the metamorphosis of matter which the child now meets for the first time. Thus a few typical occupations developed in a year enable the child to enlarge very greatly his conception of the materials and processes by which the comfort and convenience of life are secured.

At this age, as well as in the year or two following (four or five to seven or eight), the child's concepts are built up chiefly through his activities, rather than through his language faculty. He must therefore "play" farmer, ranchman, miner, etc., and in his small way perform the occupations he would comprehend—not with imaginary materials, but with real ones, though his farm be but a 4×4 sand-box, his dairy but a glass bottle in which the cream is shaken or churned, and his mine the same sand-box at another time, modeled to represent the mountains from which the ore is extracted. His farmhouse, barns, fences, etc., must be real, though they are constructed of thin wood, blocks, or paper.

The *construction* in connection with the idea of the work is the reality for the child as for the farmer.

But analysis of fundamentals must go farther than existing social conditions. It must seek to comprehend the beginnings. So in the next year the history is planned to analyze the beginnings of society. The child lives in a house and in his way has been engaged in constructing a house, and in so doing has gained some notion of the difficulties involved. But how did people ever learn to build houses, and what did they do before they knew how? The child has clothing, and has seen the animal or the plant from which it came; but how did the complex structure come to be, and what did people do before they found out how to make clothing? There are certain plants and certain animals which the child knows are good for food, and others which he has been told are not. How was the difference discovered, and how the processes which make food-getting so simple in his family? The child is surrounded with tools and various devices for the convenience of life; but what of the man who had none of these with which to assist his empty hands, either in supporting his life and that of his offspring or in defending these? The child comprehends, to some extent, that there is order, direction, leadership, in his home, his school, his town; and, through his "plays" of the preceding year, that there is great differentiation of labor today. How did it all come about? These are some of the fundamental problems which the child of seven is to attack, and the solution of which is to give him a clearer insight into his world.

As in the preceding year, "play" is the mode of attack. The class is the tribe, and the sand-box its habitat, which moss from the greenhouse can convert into the pastures of a river valley, or stones and clay into a mountain region where caves form a natural shelter. The stick and stone united by a thong may make the spear the first invention and provide a weapon for attack and defense. Keen observation may enable the child to select clay for dishes, skins for clothing, and to choose a leader for a dangerous expedition, or to suggest combination with other tribes for attack upon a common enemy, or for defense in a common danger.

As the language faculty of the child has increased in a year, much more can be done in building up concepts through its use than in the previous year. He can now comprehend more and can express his own ideas more fully. All his work tends to stimulate a desire to express himself. Throughout the year, too, it is the child's initiative in attacking the problems which is of most educative value. As in the preceding year, his problems are real problems, and so far as he is able to solve them, he has not only gained a deeper insight into his world's complexity, but has the joy and stimulus of successful effort along a line of investigation that to him is worth while; for he is primitive man, striving to find out by trying how he may control nature, and in this experimentation discover nature's laws.

In the next year (average age, eight years) the study of society is related to definite localities and concerns peoples whose acts have been recorded. It thus becomes more concrete, and corresponds more nearly to what a child would regard as a "true" story. In the two years preceding, certain associations between the people and their social life and the land they occupy have been noted. The region occupied by the farmer differed from that occupied by the miner; and the advantages of a tribe in a river valley, from those of a tribe on the sea-coast or in a rocky or arid region. In the study for this year, therefore, the concepts already formed of shelter, food, clothing, inventions and discoveries, ideas of government and leadership, are to be enlarged and a closer approach made to the discoveries and inventions which usher in the stage of progress we call "civilization." The spirit of romance and adventure common to children of this age aids in introducing natural lines of travel and exploration into the countries about which the study is to center. The whole study gives opportunity for the exercise and training of imagination.

A study of Homeric society is often used in schools as subject-matter for this age, and was used in the Laboratory of the Department of Education at one time. Biographical stories are frequently used, on the ground that they furnish the personal element necessary with children and help to develop moral

standards of conduct. It was felt, however, that better results might be obtained by attacking subject-matter of greater unity and broader dimensions, and one which furnished types of life that would be more universal. While the general aim for this year has varied little, the subject-matter has frequently been changed in order to discover that which might make it possible to carry on and develop the concepts of the preceding two years with new material, and that which would keep alert, on more difficult problems, the inquiring and inventive attitude of the child. In one year a study of the American Indians, with their inventions, customs, etc., was used, and this was followed by the discovery of the Indian by white men, and some of the explorations which made known the form of the earth and its larger geographical features and forces.

It was particularly desired, however, that the child, who took up seriously in this year the use of symbols in reading, writing, and number, should realize the conditions in which these conveniences originated. It was thought that the Phœnicians would best serve as the link between primitive man (after he had discovered the use of fire, metals, and agriculture, as developed in the second year) and the period in the world's history when its form and some conception of its physical forces had been comprehended through actual contact in exploration and circumnavigation.

In the study of the Phœnicians the habitat, from being a variable one, becomes fixed, and conditions unfavorable to the previous life-experience of the tribe must be overcome. With a sea in front and mountains behind, agriculture and flocks and herds as a means of support were no longer possible. The conditions of the environment must be made to yield means of subsistence, therefore, if this tribe were to continue. How this could be done was the first problem given the children. Out of their past experience with primitive peoples they suggested that the sea might furnish fish and the mountains metals and timber, and that these, if means of conveyance were found, might be exchanged with other tribes for wheat, wool, etc. Here, then, was an opportunity for the development of trade and all its

attendant aids. The development of trade alone on sea and land would furnish subject-matter for a very valuable study. But this development must wait until the needs of these first carriers of the world's commerce should evolve a system by which the products of a people could be measured and valued and records of transactions kept. At first, however, all trade would be by barter and values dependent upon supply and demand, as between neighboring tribes in the primitive period.

As the people who depended largely upon outside tribes for food materials increased, and as their ability to supply something in exchange increased, certain localities were selected as furnishing largest returns for labor expended. Thus trade centers developed, around which grouped the peoples concerned in them and hence arose the necessity for defending themselves and their wealth. This defense resulted in walled cities. Damascus, Jerusalem, and Memphis were selected as types of cities among which the Phœnician merchants plied their trade, and Tyre and Sidon as Phœnician cities which became places for manufacture of the raw materials secured by trade. Many Bible stories had a new meaning when placed in this setting.

In the study of society the child has now to comprehend a new type with its problems: the person who does not sell what he produces, but merely exchanges what others produce—the middleman and his profit. To carry on his work successfully, the merchant or trader would have to invent, adopt, or adapt a system of measurements and weights; he would need a numerical system and a system of records; he must plan how to utilize the labor of others, how to combine with others, and how to exclude others from his field of labor. The child has merely started on a line of investigation which, carried out through the years, will enable him to comprehend the commercial combinations which are the menace and the hope of the future.

The origin of writing, number, weights, and measures was, from the child's point of view, an attempt to solve the problem how he, a merchant trader from the Phœnician tribe, could tell the value of his merchandise as compared with that of other merchants, and how he could record promises to give him or

receive from him merchandise. The question of records seemed easiest, and the child who acted as trader at the time devised his own system of records. This was usually a picture of the articles exchanged, with marks by each to indicate the number. Thus a trade of fish for wheat was indicated by a bag and a fish opposite each other, with marks to indicate the number exchanged. When, however, other products were used in quantity, and it was necessary to select and name a part from the whole quantity, a more definite system was demanded. The ability to initiate solutions of problems which thus arose varied with different groups of children and with the individuals within the group. Parts of the body as means of measurement were suggested by the teacher, and measurement made in spans and paces. The transition from a somewhat irregular unit to an adopted unit could usually be obtained from the class. For example, the distance from the middle finger to the elbow was used as a unit for measuring cloth, and called a "cubit." After this had been used in many measurements, the teacher one day told a story of a Phœnician who went to trade in cloth, and, noticing that the men in the market-place were of different heights, selected the man with the longest arm from whom to purchase cloth. The other merchants noted this, and called a meeting to decide what should be done. At this point the class was called upon for suggestions. One child thought that the shortest man's arm might be taken as a standard, and others stop short of the elbow in their measurements; or that the little men measure above the elbow. When, however, someone suggested that a middle-sized man be selected and the rest get sticks just the length of his cubit, all agreed that this would be better.

No satisfactory way of deciding upon a natural unit of weight or liquid measure was conceived, so the present measurements were learned in using them. Divisions of a pound for weights were made in clay, each child planning what seemed to him the most serviceable form, and marking the weight while moist. The children devised at home scales with which to use their weights. These were then tested, improved, and constructed in the shop. Half-bushel, gallon, quart, pint, and gill measures were obtained, and their relations determined by measuring.

The numerical symbols were improved from time to time. One child introduced a line across four marks to indicate five, the common method of recording numbers of single games. Another child came one day and said that she knew a new way to count, and put upon the board the Roman numerals to X. The class was then interested in seeing how IV could indicate one less than V, VI one more, and that X was two V's, and that less or more than X was indicated by the position of the I to the left or right of X. The pleasure of the class when they comprehended the significance of this device proved how much a matter of thought a number scheme had been to them.

Concurrent with this construction of a number system, necessity was felt for a more accurate method of record than rude pictures. The use of a part of a picture to stand for the whole, then of a sign to stand for a sound, resulting in an alphabet, was worked out with suggestions from the teacher. The arbitrariness of this system was reflected in two alphabets invented by the children.

The symbols of social intercourse worked out naturally centered about the trader and his experiences, for the child is still chiefly interested in himself and gains his concepts through his activities, and of course he is the trader. The method adopted was that of imaginary travels for exploration and trade. This form of story-telling and dramatization was used in the preceding year, but the events which could be narrated at the beginning of the year were chiefly confined to the experience of a primitive tribe. The trader had met with strange peoples, friendly or hostile; he had had to make his wants known by signs; he had asked only for things he knew about, and hence his increase in knowledge had been slight. As the year went on, more and more content was apparent in the stories of the children. They gradually introduced the discovery of precious stones, new processes of manufacture, new devices, etc., thus carrying out, so far as they were able, the aim of the work: inquiry into the origin of products and development of processes which have transformed modes of living from primitive crude forms to the present complex industrial machinery. That glass was made from sand, that



the clay used for dishes in primitive times could be molded in more beautiful forms, burned hard by fire, and decorated with colors made from the metals of their mountains; that wool woven into cloth could be dyed with the beautiful purple from the shell fish of the sea; that the forests on their mountains contained wood and metals of great value to people of other countries—were some of the trade secrets woven into stories. The discovery of localities where copper, tin, gold, and silver existed supplied in a smaller area the motives which sent the explorers of the sixteenth century all over the world.

It was nearly always discovered that some children in the beginning could not "make up" a story as a whole, so the plan was sometimes adopted of having a story begun by one member of the class and carried on by different members, until all had had a share in making it.

A large map was made one year, as an aid to story-telling. A galvanized iron pan,  $5\frac{1}{2} \times 3$  feet, was secured. On the bottom of this the Mediterranean sea was indicated by blue enamel paint, then the surrounding countries built up around this with plaster of Paris and putty, covered with enamel paint in shades of brown and green to distinguish mountains and plains. The sea was filled with water, and each trader loaded his boat with merchandise and sailed it to the land where he expected to trade. In doing so he must name the country and describe its people or something about them. The development of navigation was discussed so far as the interest and ingenuity of the children seemed to make it worth while. Means of guiding by the stars, representation of distance by a scale, the knotted cable as a means of determining rate of speed at sea, latitude and longitude to determine locality, were some of the points taken up.

The amount of time given to this study averaged a half-hour a day for six months one year. This was decided to be too long and was then reduced to about three months. In the shorter period a wall-map was substituted for the relief map, and the explorations were carried only to the Semite and Egyptian countries, instead of including Greece, Italy, Carthage, and Spain, as in the longer period.

Following the three months of study about the Phœnicians, the history was a consideration of the adaptation to environment of people in equatorial and polar regions. This included the discovery of these regions by explorers and a study of the causes of differences in climate. Nansen and Livingstone were selected as typical explorers, and their description of the life and customs of the people was used. The connection of this study with that of the Phœnicians was made by observing that Africa is a part of the coast along which the Phœnicians had traded and established colonies. Stories were then narrated of travelers who told about the heat of the South, the color of the people, and the animals in Africa. The story of Prince Henry of Portugal and the results of his scientific investigations and explorations around Africa were told. Paper relief-maps of Africa were given the children, on which they were to select what they considered the four largest rivers. They thought exploration into the country must have been by means of its rivers. The rivers were named by reference to a wall-map. Water-color paints were used to make prominent each river system. The mountains and deserts were next found, named, and colored; then the surrounding oceans, until finally the whole map had been studied. These maps were used in telling stories of travel and exploration, in order that the children should, if possible, gain a habit of referring to a map in their study of history. One child would announce as his object the discovery of the source of a certain river. In telling the story of this he would have to tell whether he was going "up" or "down" the river; whether he followed the main stream or one of its tributaries; whether he encountered falls or lakes; the character of the beginnings of the river when discovered; animals, plants, or people encountered. In this way the larger geographical features—equatorial zone, ocean currents, mountains, deserts, etc.—became familiar, with the causes of their formation. Incidentally the difference between a cape, an isthmus, a peninsula, a bay, and a strait was learned, not as definitions, but as land and water forms met and needing differentiation.

In the study of the Eskimo emphasis was laid on substitutes for the building material, textile fabrics, and vegetable foods found

in milder climates, and upon discovering the causes for the difference in climate at the equator and at the poles. This led to a discussion of the cause of seasons. The children watched the reports in the paper of the rising and setting time of the sun for several days before the equinox and for several days after. The lengthening and shortening of the day in our latitude was the starting-point for discovering the differences in other latitudes. The black-board globe was used to show the circle of illumination with reference to the poles at different seasons of the year; then the tellurian watched in its revolutions. When the children seemed to have any difficulty in imaging the effects of the earth's position at different seasons, the gas jet was lighted, the room darkened, and the globe carried about the illuminating center, the parts which received sunlight in different positions being noticed. The great wind and water currents and the forms of continents were studied in connection with the life of Columbus, and a contrast between the ideas that then prevailed and present knowledge was attempted.

If one can state what the child gained in this year, besides facility in language, the most striking thing would seem to be the enlarged concept of his world. He has, so far as his power of imagery would permit, himself lived through and worked out the progress of the nations through many hundred years, and his mind has grasped the necessities that have made men invent and thus solve the problems of progress. The interest which the child naturally takes in biography has been given a natural setting. His heroes are not isolated from the times in which they lived, but are men who are great because they achieved something for their fellow-men—not of the marvelous fairy-story order, but in the line of knowledge or power which has benefited all. In imagination the child has striven with nature to gain control through the recognition of nature's forces and laws. To whatever extent he has realized this, to that extent he has entered upon the true line of progress—the industrial and economic side of human effort, upon which the literature and arts depend. In following a thought which is vital and fundamental throughout the year, and making the subdivisions of the subject simple, but

strong, the confusion is avoided that sometimes comes to children of this and a later age from too many stories, involving many characters and incidents. They have to some extent learned to take pleasure in the expansion of a great idea rather than the sensations of newness and change. In working as a class to accomplish a common aim they have learned to adapt themselves to the will of the majority and to appreciate the value of each one's part to the whole. They have been taken through the history of the development of the race, not because a child necessarily lives through these stages in his development, but because in passing through these stages he can most easily gain the acquired inheritance of the race.

LAURA L. RUNYON.

UNIVERSITY OF CHICAGO  
Laboratory School.

[*To be continued.*]

## ELEMENTARY COOKING IN THE LABORATORY SCHOOL.

THE cooking begins in the kindergarten. Foods such as cereals and fruits are selected, since these require the simplest preparation and but little variation in the manipulation of the materials. The children's interest is in the active work which is done, either from direction or demonstration, and in the luncheon which they prepare and serve. The value of the work is in the nice handling and careful use of materials, and in the forming of habits of neatness and order. All this tends to create order not only in doing things of a practical nature, but also in planning. It is similar in nature to the organized play of the kindergarten in the influence it has on the social organization of the group. The observations made during the progress of the work are valuable as emphasizing a few regularly recurring phenomena.

The cooking has particular educational value with the younger children in giving opportunity for individual work, initiative, and independence, and also in calling for group work, which encourages a spirit of helpfulness and nice adjustment of the individual personalities to the work of the group as a whole. It makes an appeal to children which is immediate and direct; and is of such a nature that it can be arranged in orderly sequence; so that, beginning with the simplest preparation of food to be served for luncheon, the children become interested in the materials used and in the processes involved in the preparation of these materials. This makes it possible to introduce simple experiments previous to the cooking, which enable them to work out the formula and the steps used in preparation of the food. The sequence of work forms habits in their nature simple and direct, which can be built upon and further developed in later work where the processes are more involved; and on the social side where the interaction of work among the children requires a finer adjustment to the social life of the group.

The work as given to six-year-old children changes somewhat as regards both the attitude of the children and the manner of presentation in comparison with that given the kindergarten children, the materials being the same, that is, cereals and fruits. Grains are selected on account of their relation to the work in "present occupations," which is begun with the study of a typical grain farm. The interest in the cooking begins with the desire the child has to carry farther the occupation of the farmer and the miller, and to carry the food in its preparation to its final use. These foods also furnish the simplest illustration of the effect of heat and water on the starch and cellulose in preparing them for digestion.

The various preparations of cereals are examined, the methods of preparation considered, and by means of experiments actually made the children compare difference in time required in cooking the different preparations and the reasons for this difference. In cooking each preparation they work out some new point in the application of heat and water. The general idea of the work on cereals has been to begin with the simplest use of fire and water, that is, by putting the starch of the grain into such condition, both by breaking up mechanically the cellulose and by the effect of water on the starch granules, that mastication, taste, and all other processes of digestion are more easily accomplished. Then the idea of grinding the grains to shorten the process of cooking is introduced. Experiments are made to show in a general way the composition of the grain, the difference in the relative amounts of starch and cellulose in the various grains, and the different preparations of grain found in the market, as hulled, cracked, ground, and flaked.

Fruits and vegetables are selected in the year following, because the problems involved in their preparation can be made to originate from the materials used. From experiments suggested by actual work and formulated in class discussion the children are led to a solution of the problems which arise. In the actual preparation of a dish the chief interest is in the luncheon which is the purpose of the lesson in cooking, but the child soon discovers that unless he is sufficiently familiar with

materials and processes he is helpless to proceed. The inquiring attitude of children of this age opens up many questions, and also suggestions for their solution.

In the experiments made in this year the interest is in seeing what happens and in making discoveries. The purpose of the experiment is often lost in the interest of the immediate process; therefore the connection made by the teacher between the purpose of the experiment and the problem to be solved, though only a phase of the work, forms a new problem for the child. For example, the potato is to be cooked. The child is led to compare it with the cereals previously studied. This leads to an analysis of the potato which completely engrosses him for the time being. After he discovers all he can about the potato, he is thrown back to the original problem of how to cook it. This at once calls for an application of the facts discovered in the experiments. The fact that experimentation is continuous throughout the year, and that results are always made use of in some practical end, gives added value to each experiment in that each becomes part of a larger whole, the original problem growing larger and showing many sides.

Increased power of observation is the result, and skill is acquired in handling materials and in controlling processes. The children become acquainted with simple chemical and physical facts in relation to the action of heat and water on the food constituents.

Starch and cellulose were found in cereals studied in the previous year, and are now found in varying conditions in fruits and vegetables. The value of water as a food constituent is considered; also the flavoring principles, such as the essential oils, vegetable acids, sugar, and mineral salts. These are considered, of course, with the younger children more in the part they have in giving character and flavor to the vegetable than in any nutritive value they possess.

When the child begins with these practical activities he also gets an idea of the real value of number; that is in using parts of a cup, and in using these fractional parts as units and then getting the relation of these units to a larger whole, he begins to

have an idea of simple fractions. From the manipulation of materials, and comparison of these by weight and measure, he gets in a concrete way a definite idea of proportion which later on can be made use of in abstract number. In connection with the balancing of the grains, to obtain the amount of water required for cooking, recipes are made for the preparations of the grains. He discovers the practical importance of the recipe and just what it is used for, namely, to give the materials and the quantities required.

The vegetables are analyzed in a crude way to discover their relative amounts of starch and water ; also the character of the juice and quality of cellulose. The different modes of cooking which effect the most desirable changes in the typical vegetables are obtained by means of experiment. The child's attitude is one of inquiry, and the material presented in this year offers him possibilities for experimental work.

In connection with the history the children take up primitive modes of cooking out of doors. In this connection are considered primitive methods in the application of heat, such as roasting in hot ashes, on hot metal, stones, stone boiling, and hot stones buried in the ground. The children have two or three primitive feasts where they cook potatoes, corn, apples, chestnuts, and some sort of meat. Application of heat under these new conditions serves as an occasion for the child to abstract the principle he has been using in connection with modern methods and apparatus. This abstraction was a necessary step in the control of the primitive fire-place.

ALTHEA HARMER.

THE UNIVERSITY OF CHICAGO  
Laboratory School.

[*To be continued.*]



## INTRODUCTION TO THE PRIMITIVE TEXTILE WORK IN THE LABORATORY SCHOOL.

THE study of primitive forms of spinning and weaving is given in connection with the primitive history to illustrate further the life of people whose mode of living is simple and in direct contact with nature. This study also presents a craft which has an intimate place in the daily life of primitive people.

It has been suggested that in the study of textiles we might present more profitably present conditions of manufacture than to return to unused methods. The advantage of returning to these earlier methods, aside from giving a richer content to the period of history the child is concerned with, is that it presents an important industry of today reduced to its simplest elements.

The existing forms of the industry are too complex in the processes used, in the forms of the machines, and in organization, for children to comprehend. Whereas in primitive conditions we find the essential elements of the industry. Non-essentials are eliminated, and the basic principles stand out clear and definite.

The child realizes the conditions of the period by reconstructing for himself, with materials that would naturally be used by these people, a picture of their life. The materials are of such a nature that the child can reinvent processes and implements used. The dramatic instinct is appealed to in acting out the life and the occupations, the creative or artistic instinct in carrying a project to its end. The child's joy in doing what other people have done finds an outlet while he is gaining power in handling materials and in controlling processes. These impulses and experiences are realized in the finished product, which holds the child's interest throughout. The spinning and weaving are for the purpose of making blankets for the primitive family, and are done in a manner appropriate to the limitations of *its* life. The child also realizes in the progress of his work the artistic impulses of these primitive peoples, which are recalled in his

own quaint designs and color combinations. Such material is selected as will give pleasing results; that is to say the finished product should be beautiful, not alone from the child's point of view, that there may be nothing in it to offend or interfere with his judgment of what is appropriate, but most of all, it should contribute to his standard of judgment in things of an artistic nature.

In working out the different processes involved in making cloth, in using materials and implements suggested by necessity, and in observing the results reached by the people of the past, children realize the advance made in methods of work and can readily comprehend the meaning of industrial organization in its simple forms. This step precedes a more fruitful and concrete study of the later phases of industry; that is, of the household and domestic period which is richly illustrated in early colonial life. This again is followed by a study of the transition period, the era of inventions in England in the eighteenth century, which indicates economic conditions leading to factory organization. The study of each phase of industry is simplified by following its natural development by making it coincide with the history which provides the social setting. It has a further advantage in following each period of development of the child himself. He is himself advancing socially by easy stages, of such nature as enable him to comprehend cause and effect in the organization of the particular phases of industry he is pursuing.

When the child has passed through these different periods by means of actual direct work with materials, and observation of historical and economic facts, he can, in visiting the factory, grasp without mental confusion the essential and underlying principles of machines and processes, and the more subtle points in the organization of factory life. In addition to his intelligent insight into industrial life, and into its effect upon social life in history, the child gains experience of a scientific and æsthetic nature.

The subject-matter relating to primitive forms of spinning and weaving is obtained from a study of museum collections,

ethnological reports, and such information and materials as can be obtained of present primitive peoples.

REFERENCES: Otis T. Mason, *Origin of Inventions, Woman's Share in Primitive Culture*; Charles Vickersman, *Wool and Wool Spinning*; Richard Marsden, *Cotton Spinning and Weaving*.

In gathering materials for their own work and using only that which nature supplies, the children come to realize fully actual primitive conditions; their inventive spirit is stimulated, so that they are easily led to receive suggestions from the materials they use. They adapt and invent weaves suitable to flexible and rigid grasses, invent simple looms, and as the work proceeds realize the advantage of a continuous strand. They twist grasses, vegetable and animal fibers, and weave them into coarse mats, to be used either as furnishings to the primitive hut or as clothing for the primitive dolls. By winding on the twig, the spindle is developed. The aim is so to arrange the work that the *problem* comes to the child from his actual work, and, if possible, in such a way that he discovers the solution; *i. e.*, each step in the process is so dependent on the nature of the material that the children make the steps logically and of their own initiative.

The children gather together what they know from experience and from the work with fibers in Group III. They observe the difference in quality of the four typical kinds of cloth: wool, silk, cotton, and linen. They examine samples of fibers in the natural state—the silk on the cocoon, cotton in the bolls, wool, as it is sheared from the sheep, flax as it is gathered from the field. They select the fiber which they think was probably used by peoples in primitive conditions, *i. e.*, that requiring the least preparation, reaching their conclusions by means of the following process: They unwind the silk from the cocoon; find it fine, delicate, and difficult to handle. They remove the cotton from the bolls and separate the seeds from the fibers—a tedious task. Retted and unretted flax shows the long process of decay necessary to remove the fibers from the stalk. They examine the length and strength of each fiber to decide which one would probably be used by people in primitive conditions. The children do not

mention wool directly, but mention skins and furs. Otis T. Mason's chapter on the "Skin Dresser," as to how the primitive woman prepared the skins brought home by the hunter, was read to them. Illustrations of the scrapers were shown. Bird skins for the softer and more pliable undergarment were mentioned. The question of how these were pieced together came up, and the primitive method of sewing was described, as a process of piercing with a bone awl or fish-bone and tying together with tendons. The children bring from home leather or skins, any large fish-bones they can find, and tendons in order to repeat their work.

A fleece is examined and methods of shearing talked over. The next step in order should be a visit to a sheep ranch. If this is impossible, the children can substitute photographs and the relation of personal experiences. The relative quality of the different parts of the fleece is observed, and also the duties of the wool "sorter." Feltings, tarred locks, brands, and wool from lower parts of the legs are removed and spun into coarse yarn. The long, clean wool from neck, breast, and shoulders is made into yarn for the finer cloth. The back is usually full of burrs and more or less matted, requiring care before spinning. The children work out the whole process in detail for themselves by means of a series of experiments. They take wool from the fleece and get it into condition for spinning. The first thing that naturally suggests itself to them is to wash or "scour" it. Each child tries spinning both "scoured" and raw wool for the purpose of comparison. The oily fibers of the raw wool slip apart easily; the harsh, dry fibers of the scoured wool are matted together and difficult to manipulate. Thus they find from experience the reason for using unscoured wool in hand-spinning.

In order to spin wool in any quantity, burrs and dirt are first removed from the raw wool. One child suggested, in order to facilitate the process: "If you spread the fibers like a cobweb, the dirt will fall out." Three questions were raised in the course of the work: How would the fibers have to be arranged to make an even thread? How would the cross-fibers interfere with the evenness of the thread? How would dirt

interfere? At the end of the lesson the children formulated the purpose and method of carding. A clean fluffy mass of wool was drawn out in a long "sliver" one inch wide. Where thin places occurred they fitted in loose strands of wool. This gave them a clearer idea of the interlocking of the wool, due to the wavy character of the fiber. Carding implements were worked out. One wanted to bring a comb; they tried fastening pins in cardboard and making a comb of wood with several coarse teeth to take the place of the fingers. The fleece, as a whole, and even raw wool were new to nearly all the children. Many questions were asked, such as this: "What is the difference between hair and wool?" Wool and hair were examined under the microscope and sketches made for the children of the microscopical appearance of the two, showing the rough, scaly surface of the wool.

In dressing their dolls for the primitive houses, the children wanted to make a woollen blanket. Wool was selected for spinning the thread, and in half an hour they learned how to spin rather coarse thread, and in the second half-hour spun enough thread for the blanket. The children spun the thread in various ways, and at the end of the lesson they were shown how the mother in primitive times probably spun thread by rolling it on her knee.

When the sliver was too thick, the wool simply matted together; it would not interlock to make a hard twisted thread. The children tested the difference between matted wool and spun thread; also experimented to find the greatest number of fibers which would spin without matting. They gathered smooth twigs in an open lot near by and wound their spun thread to prevent tangling.

The child easily discovers that, when the end of the thread is left free and the twig is dropped, the twist is lost and the thread unwound. He reasons that by twirling the twig in the opposite direction the twig can be made to do the work he had previously done by rolling against his knee. He discovers also that when the twig is weighted with thread it draws out the carded wool and assists in the spinning.

Some of the children found it rather tedious to spin enough thread to finish the blanket. One child suggested that it was rather a slow way to spin. Attention was called to a spindle which was full of thread, and its spinning was compared with that of another spindle which was nearly empty. The full spindle could be twirled rapidly, as the carded wool was drawn from it. They thought of all kinds of materials which they might use to weight the spindle stick artificially, but the clay from the studio seemed easiest to use. They made whorls of clay and spun in this fashion.

The twig was weighted artificially with clay, stone, or wood, which suggested the whorl and its use in balancing and giving greater speed to the spindle. The advantage of having the whorl in the shape of a disk, to secure smoothness of motion was taken up as a problem. The children were pleased with the idea of the derivation of the toy top from the spindle, with the idea that when they were playing with tops they were doing what the child of long ago did when he imitated his mother's spinning.

A distaff and spindle were made in the shop, and each child practiced spinning a fine, smooth thread. They compared this with hand-spinning, and showed that it took less time and labor to produce the same amount of thread—many more fibers were made to interlock, and the thread was more uniformly twisted. Thus, by comparing in each case the handwork and that done by the crude implements, they were brought to realize the advance made in this first step in spinning.

The children changed the disks of their spindles in order to spin as the Italian women do, the spindle being twirled on the knee, and spun in the air. They found that it spun more easily and for a much longer time. They observed without suggestion that it was because there was nothing to stop it. They were asked whether there is anything to stop it if it is twirled in the air, and one child answered "no." They suggested that it might go on forever if there were nothing to stop it. A child said that it must be the drawing out of the carded wool that disturbed the spinning. They tried drawing out the

strand before twirling the spindle. The twirling was found to decrease in rapidity almost as readily as when the carded wool was drawn out at the same time. The children then believed that the air must disturb the spinning. Another child observed that of course it must be the air, as air has weight, and mentioned gravitation, and the air held to the earth by its weight.

The thread was made too fine for weaving. After having analyzed the structure of thread, they prepared to make "three-ply" yarn of the thread they had spun. They worked out the idea that the strands would have to be twisted together in the same manner as they had spun the yarn; that the various strands would have to be drawn out evenly, thus necessitating a frame on which the bobbins or spindle-sticks could revolve. The children held three bobbins in position, and then measured for the desired shape and size of the frame.

The yarn was ready to be scoured and dyed. The children saw quickly the advantage of having the yarn in loose hanks for dyeing. They wound the skeins about the backs of two chairs, one child delivering the yarn from the bobbin while another regulated it. They found it slow work and succeeded in making very small skeins. From this they were led to make something similar to the bobbin frame upon which to wind the skeins. A simple reel was made in the shop. The yarn from the spindles was wound into loose hanks for dyeing. As a preparation for weaving, cloth was examined, and its structure and texture compared with the mats and baskets they had previously woven.

The fact that weaving of materials that did not require spinning must have long preceded the invention of spinning was made clear from their own experience and in the examination of the work of present-day primitive peoples, in the following manner: The textile work of the primitive peoples of today was examined, and found to consist chiefly of grasses and various other raw materials. The beaten bark or "tapa" of the Hawaiians showed the interlacing of fibers. Discovery of a cast fleece matted after exposure to rain and sun may have suggested primitive cloth-making. The effect of water and heat on wool

was tried, and in some cases resulted in a fine piece of felt. The weaving of a rush mat from the chance placing of the reeds forming a sort of pattern on the clay floor of a primitive hut was suggested as a probable origin of pattern-weaving. The children gave the cocoon, the bird's nest, and the spider's web as instances of weaving. In the cloth the interlacing was found to be regularly adjusted into two sets of threads, respectively "warp" and "woof."

Each child explained his way of constructing a loom. The two beams to hold the warp in position, and the two cross-beams to keep them stretched. It was very simple, the children using only materials which they are likely to find in the woods, no prepared lumber or shop tools being used.

They made a loom of four twigs tied together with the thread they had spun. The warp and woof of the cloth was examined and reasons for having the warp stronger were experienced in the weaving.

A blanket was woven of the thread which they had spun. A few children finished their blankets in one hour. In the next period the blanket was cut from the loom, and the ends tied in a fringe. The blankets were then scoured and washed. The blanket being completed, we reviewed the work done during the quarter. The children sorted, teased, carded, and spun. The different processes making up the series were thus brought together, enabling the children to realize as a whole this stage of the industry.

ALTHEA HARMER.

THE UNIVERSITY OF CHICAGO  
Laboratory School

[*To be continued.*]



## LITERATURE IN THE ELEMENTARY SCHOOL.

### III.

It is not altogether easy, among the many ends that may well be served by literature, to fix upon the pre-eminent aim to which all others should be subservient. Nor, with all the wealth of letters before us from which to choose, is it a quite simple matter to select that which shall from year to year meet the special needs of children and further our general design. And when we have encountered these difficulties with such success as we may, there remains a third to give us pause. It is the question of method: How shall we bring pupil and material together so that the pupil's mind shall most readily take the material into itself and make it over into substance of its own life and means of growth?

No one of us, we may assume, can answer this question once for all even for himself. With a material varying so widely within itself as literature, and with the living souls of pupils not only varying from one another by countless differences, but within themselves by the very process of life suffering progressive transformation, he who depends too securely upon any fixed method is lost. He is lost, that is to say, if by method we mean a system of devices for securing definite results. Devices no doubt must be employed, but of these I shall say little. What I am more deeply concerned with is something more vital—the conceptions of human nature, its needs, and its mode of healthy growth, whether in adult or in child, by which the teacher of literature must be steadily guided. It is by these conceptions that he must test all the devices, the ways and means of instruction, that clamor for acceptance in the schoolroom. It is from these conceptions and from the nature of literature that he evolves his principles of conduct, his method in broader sense.

At the risk of repeating some points already made, I venture to run over the notions that most concern me as a teacher of

literature. They are these: Every human soul is an activity of thinking, feeling, and willing, eternally distinct and different from every other, mysteriously isolated in the midst of myriad forms of life and myriad soul activities. This isolated soul is nevertheless so akin to the environing world that for its own growth, the realization of its own nature, it is primarily dependent on its environment. For material for growth, for nutriment, it is absolutely so dependent. Out of its environment must come the provocation to the activities of the senses which the mind in its turn must take up and transform into experiences of the soul. Yet, though the material offered for these experiences be the same, no two souls, we may well believe, ever selected from it exactly the same elements. Certainly no two ever transformed these elements into identical lives. The subtile power of transmutation resides in the soul itself. Not a mechanical force, but a vital force, its natural action is relatively slow, obscure, secret, eluding even the consciousness of him who is undergoing transformation. For effective and healthy action it requires time and freedom and something of quiet. Above all, the slow progress of the soul from potentialities of feeling and willing to a sane and noble and intelligent life of emotion and volition must be largely unconscious. The power of the soul to receive impressions, and to transform them into sympathy and love and pleasure and aspiration, is at all times far beyond its power to analyze its own experience, and even to give it simple utterance. To deprive any soul of the opportunity for experience till it acquire a commensurate power of analysis and expression is to cut it off from its most natural mode of growth. In children, at all events, expression is likely to be wholesome only so far as it is natural and spontaneous. A forced and premature effort at analysis and expression creates an unhealthy self-consciousness, and, if persisted in, is likely to make prigs and hypocrites. The earliest developed and most unconscious modes of self-expression are tone, bodily movements, and facial expression. Relatively much later comes the power to utter the self by articulate speech and chosen word. When the child enters school the former modes of expression are already developed to a point far in

advance of his power of speech, although still lagging far behind his power to receive and assimilate ideas, life.

If these notions are well founded, they necessitate certain conclusions as to the duty of the school in general, and the teacher of literature in particular. It becomes incumbent on them, in the first place, to supply to the child for him to make over into his own substance a measure of life that shall not be strictly limited by his power of expression; secondly, to give the already established powers of expression opportunity for growth through healthy exercise; and, thirdly, to help the child to the acquirement of such further powers of being and expression as his actual development at any time makes possible and desirable. I shall touch upon these points, of course, only as they concern the teacher of literature.

What may be looked upon as the first, and perhaps the most important, phase of method in literature appears in the very choice of material. Life begets life and nourishes it. If the pupil at any age is to gain through literature increased power of feeling and thinking, of judging and acting, we must present him literature that invites him to feel and think, to judge and will. To give him courage, confidence in his own thinking, we must supply phases of life that in substance are well within the range of his experience, however novel they may be in form. To give that courage exercise, to challenge it to increased activity, we must sometimes use literature that calls upon the pupil for thought and judgment, where to think and to judge requires a distinct effort on his part. To give sustenance to powers existing as yet only as ill-defined impulses, as "stirrings of inquietude," as fugitive shadows of emotion and aspiration, yet necessary to the fulness and beauty of life, we may now and then make use of literature that eludes the pupil's conscious grasp and altogether transcends his power of conscious expression.

Naturally, as feeling antedates distinct thought, is the mystic, inchoate stage of thought and will, the literature chosen for this last purpose must be for the most part in that form in which thought seeks expression when most highly emotionalized, held

in solution, as it were, in emotion—poetry. Moreover, since poetry holds thought and emotion in this closer union, and by virtue of its idealized tone and measured movement makes more potent and subtle appeal to the complete life within us, it must supply a large part of the material used for the furtherance of the other purposes also, must constitute a good share of the course in literature. And as beauty is the great joy-giver, the inspirer of love, and quickener of aspirations, not only all the poetry in use, but all the prose, must have living beauty of form and spirit.

After the choosing of material vital in substance and form, the next demand to be made upon the teacher is that he show his faith by works. If he really believe in the power of literature that is instinct with life, and in the mind's inherent power of growth by selection, assimilation, and transformation of the elements of growth presented to it in literature and life, his main effort will be merely to remove the barriers that at any time exist to keep literature and minds apart, to give the mind freedom of approach to literature, freedom of contact with it. The special nature of his work at any given time will be determined by the nature of the barriers that most urgently demand removal. And this depends in its turn upon the form of the literature and the stage of development already reached by the pupil.

Until the child has learned to read easily, he is dependent on the voice of others for his access to literature. This is the stage at which the school receives him first, and with the best efforts of the school it is usually several years before the child reads well enough to find easy access in any other way. This complete dependence of the child on the teacher gives the latter at once a great responsibility and a great opportunity. Recognizing that the value of the literature used here as much as of that used elsewhere is dependent, not upon substance alone nor upon form alone, but upon the vital union of the two, he must hold himself to a faithful presentation of the most artistic accessible version of the prose tales and to an equally faithful rendering of the poems. What this means is so much more generally recog-

nized in case of the tales than of the poems that I desire to dwell mainly upon its meaning in the latter case.

The various modes of handling *Hiawatha* may make the point clear. Not infrequently one is told that *Hiawatha* is used for primary literature, only to discover a little later that the poem is never seen or heard inside the schoolroom. The bare outline of certain portions of the story as Longfellow tells it—sings it—is rehearsed more or less glibly in prose, and fixed in the children's minds by a good deal of perfunctory reproduction in such halting and unbeautiful prose as the teacher's version can inspire in children of unready tongues and scant vocabulary. Considerable effort is given also to the enforcing of practical lessons in economy and morals derived from the story—a thing that children are very apt in as far as words go. But of what makes *Hiawatha*—not a trace. The allurements of the forest, the feeling of the earth under our feet, of treetops rising high in the airy spaces above us, the friendly call of squirrel and bird, the kindred voices of the wind and the brook, the wide waters of Gitchee Gumee stretching into mysterious splendors of sunset, and the glooms and shadows of night—all these are lacking. And with these gone, the strange charm of the Indian life is gone, dependent as it is on its kinship to us, on the one hand, and its mystic relationship to the earth-life, on the other; its freedom of communion with four-footed creatures of the forest and all the denizens of air and water, its reaching out in dim ancestral memories and traditions to moon and star, the over-arching sky, and the invisible winds of heaven. The sense is gone of omnipresent mysterious life enfolding us, murmuring to us in voices multitudinous, hushed, and whispering, but sweet and clear to one who walks the forest paths with loving feet, and lingers and listens as he goes.

The bare action the poorest teacher of us can narrate in his own prose, but along with the action to suggest this rich world of emotion with its subtle tones, its elusive moods, its instincts of primitive man, its foreshadowings of the man-to-be, demands the poet's own verse, this unrhymed trochaic measure, half recitative, half lyric, in which the poet caught and preserved

forever the fitful voices of forest and wave. The child's susceptibility to tone and movement is so far in advance of his unaided power of interpreting words that the music of the verse is the necessary medium by which the poet's thought and emotion are translated into emotion and thought in the child.

That they are so translated the teacher may make sure, not by probing question and demand for reproduction in the child's own words, but by watching the child's unconscious revelation of his mood in his attitude as he listens; in the changing expression of his face; in his gesture; in his tone as he catches up the poet's own words and repeats them for sheer joy in them; in the effect upon his play; in the recurrence in his own speech of words and phrases of the poet; and in his longing to put hands on the pages, to own for himself the book that embodies in baffling symbols all the life that fascinates him. If other tests are needed, and some other mode of reproduction of the more tangible phases of the poem is insisted on than the repetition of the poet's own words, we may call to our aid a means of expression which the child delights in, and which is far less likely than the ordinary form of reproduction to make him self-conscious and awkward—drawing and molding and various forms of construction with the hand. This at the same time satisfies the demand of the teacher's conscience for tangible results, gives exercise to the child's imagination in a form of expression he already craves, and leaves the shy child-soul, undisturbed, to the silent, unconscious transmutation of the life of the poem into elements of his own being.

As soon as may be the barrier of the printed symbol must be removed and the child brought into direct contact with literature through his own eyes. To this end I would have the book before the child from the first; would have the teacher, though he know tale or poem by heart, keep loving hand on the book, refer to it freely, and often let a group of children gather close to look upon the page and follow the lines as he reads. Often let them in passages they know by heart try to gather from the half-known printed symbols the familiar tones. As time goes on and the symbols become less and less a hindrance, the book

must be more and more relied on, till to pupil as to master all consciousness of hindrance is gone, and as the eye falls on the printed symbol the ear hears the symbolic tone and the mind is aware of the thought and feeling symbolized by both alike.

If our aim in teaching and studying literature were merely to get and to give information, we might be content to ignore tone, to pass from printed mark to idea oblivious of tone and all that it suggests; but since our aim is life, and since to literature as art language is always spoken, is always a body of symbolic sounds conveying thought and feeling, not merely by fixed significance of printed symbol, but by subtle and varying suggestion of movement and tones, we can never reach a point where tone and movement can be safely ignored. In the earliest work, as we have seen, we depend on them, through the medium of the teacher's voice, to enlarge the child's limited power of interpreting words and to give him the same joy and freedom that he feels in music. Later it becomes no small part of the teacher's duty even in prose, a still greater part in poetry, to increase the pupil's power of apprehending subtle differences of movement and tone as well as of visual image, that through them the pupil may more readily enter into the heart of the author, think his thought and feel his emotion, look out upon a world bathed in the same spiritual atmosphere.

Much of this must still be accomplished through the teacher's own reading. Nowhere in the elementary school can we venture on much technical instruction in literary art whether of prose or of poetry. To do so would very likely be to misplace emphasis and substitute a crude and priggish pleasure in criticism for the vital pleasure we seek to give. Yet directly in his own reading and indirectly in guiding the reading of his pupils, the teacher will find demand for every bit of knowledge he can muster of art forms as well as of life. And pupils should go from the elementary school to the secondary school with their susceptibilities to art all alive, with quickened and intelligent vision, and ear and voice trained to perceive and render harmonies of tone.

Other difficulties besides those of form and art stand in the way of the young pupil's appreciating and making his own the

life that is presented him in literature. He encounters life in forms foreign to his experience and mode of thought, and he needs, very likely, some help from the teacher in appropriating this life. He meets varying ideals of conduct, ideals sometimes running counter to all that he is familiar with. In following individual lives in books, he sometimes finds himself confronted with perplexing and conflicting demands for action, with questions of life far too complex and difficult to be answered off-hand by any ready-made maxim or moral rule of thumb.

In all these cases, and in how many more, the teacher is bound to give help if he can. And in giving it he should be at once reserved and generous. He should give of his best, but he should remember the sanctity of each soul before him, its right to grow by its own experience, its need of silence and reserve. He should remember that it is not just a pupil to pour information into that he faces, but a growing human being. As far as he speaks, he should speak to pupils as to friends, frankly and honestly, without condescension and without affectation. But he must remember they are not ready for all life all at once, even if his experience encompassed it; and he must not press them too far for judgment and feeling. Within the limits set by the development of his pupils he should think with them, question and judge with them, laugh with them, and silently feel with them. Beyond that he must be content to wait for the silent working of the inner forces of life and their own experience to take up the substance of what they read and transmute it into powers of mind and heart.

It will be seen that I plead for more unconsciousness on the pupil's part and for less dependence on rigid tests of progress than the present school ideal is inclined to permit. That ideal has grown up largely, I must believe, out of the preponderating importance so long given to arithmetic and latterly to the natural sciences, and out of the very natural desire to see results, measurable results, of our efforts from day to day. The teacher of literature will do well from the first to face the fact that if he really teaches literature he cannot expect such results. He is dealing with things imponderable, intangible,



immeasurable, with hope and love and faith, with subtle joys and apprehensions, with fear and courage and baseness and high-mindedness, with pleasures of sense and joys of spirit and contentment of the heart, with action and feeling, with the things that make and manifest character. Not for him, then, are the quick response, and the pleasure of seeing from day to day just what he has accomplished. In the face sometimes of apparent sluggishness and torpor in pupils, often of apparent indifference, he must keep a stout heart and work on, keep faith in the possibility and the value of what he is trying to do, and remember that inevitably the process of life is slow, working beneath the surface, and becoming evident only with lapse of time. If he can be content with his pupils' unconscious expression and revelation of what is going on within them, he may find much to sustain his courage even from the passing day. As weeks grow to months, he will find the faces of boys and girls here and there kindling with a quicker sense of life, their speech showing a deepening judgment and sympathy. And as not months but years pass, echoes will come to him now and then from lives that are fuller and sweeter because through literature he touched them as they went their way.

J. ROSE COLBY.

ILLINOIS STATE NORMAL UNIVERSITY,  
Department of Literature.

## BOOK REVIEWS.

---

*The Place of Industries in Elementary Education.* By KATHARINE ELIZABETH DOPP. Chicago: The University of Chicago Press, 1903.

THE culture-epoch theory in education, like the recapitulation theory in biology' is undergoing a promising transformation. The conception no longer is that the individual is compelled to pass through certain periods of development simply because his animal or human progenitors passed through like states. The emphasis has shifted to the common forces and elements in the life and social process. We now believe that the human organism goes through a series of states approximating in some respects those of his animal ancestors, just because the same life-causes, acting under similar conditions, bring about like results. Upon the social and educational side we turn to history, not for light upon what the child *must* go through, or must be made to go through, but for help in interpreting the development which he is actually going through, and for light in guiding that growth.

This means that the historical method is invading the business of education, and is likely to be one of the most fundamental forces in directing its immediate future. In some sense, every advance in civilization makes the problem of education more and more difficult. It widens the distance between the immaturity of the child (which remains, so far as we know, practically unchanged upon the physical or heredity side) and the comprehensive, complex, remote, and subtle conditions which he needs to master. The newcomers into civilization find themselves face to face with technical, mechanical, and intellectual devices and resources in the development of which they have had no share or lot; and which are so far beyond them that they have no instinctive or natural means of understanding them. The problem of education—the problem of establishing vital connections between the immature child and the cultural and technical achievements of adult life—thus continually increases in difficulty. It is coming to be recognized that the historical method, more than any one thing, is the key which unlocks difficulties. By knowing the social and intellectual conditions under which arose a given industrial device, plan of government, or type of scientific interest and theory, and by presenting that to the child in connection with its social and human context, we put him in the simplest and freest attitude toward it. In my judgment, Dr. Dopp's book is the most helpful thing that has yet been published in the way of giving to teachers this point of view, and of putting them into scholarly and sane relations to the material involved in working it out on its educational side.

The various stages of social development are briefly and yet scientifically described from the hunting, fishing, pastoral, and agricultural stages, the age of metals, travel, trade, and transportation, the city-state, the feudal system, the handicraft system, or period of town economy, up to the industrial system of today, or period of national economy. The special value for the teacher of this summary is that it not merely gives the external facts in a clear way, but also sets forth the mental attitudes and atmosphere that cluster about and are promoted by each period. This last point is brought out with special force in the third chapter, "Origins of Attitudes that Under-

lie Industry," in which a lucid and straightforward psychological interpretation is given of the evolution of the race-interest in various forms of work and play. For example, it is shown how the pastoral stage is closely related to the evolution of art and of games, especially various forms of athletic tests. The growth of interest in animals and animal activities, and of their imitative dramatic reproduction, is suggested. The relation of the industrial activities of spinning, weaving, etc., to the evolution of conscious interest in rhythm is brought out, etc.

In the fourth chapter the development of interest in various forms of work and play is taken up as that shows itself in the child. Points of similarity in the interests of the child with those of various periods in the race are indicated, not on the ground that the child is predestined to recapitulate the cultural development of the race, but because, having the same career to achieve, there is a present organic necessity for the genesis and growth of similar typical attitudes. With sure, clear touch the drama of psychic evolution in the child is delineated. Practical suggestions are made as to ways in which the teacher can seek and find in the records of the corresponding development of the race, methods and materials with which, not to humor the child, but to assist him in more complete and effective reattainment of the splendid achievements of the race.

The book concludes with a reinterpretation of the educational significance of various occupations and industries in the school. It would be difficult to find a more luminous statement of the educational import of all that goes by the name of manual training, constructive, and occupational work than is presented in this chapter. Many readers will, I am sure, agree with the reviewer in satisfaction at the hint given in one passage that there are other volumes in preparation which will put under the working command of teachers some of the wealth of material which is now locked up in the report and museums of ethnologists and sociologists. We are emerging from a time in which manual training and constructive work are regarded, in the lower grades, as a form of "busy-work" or a concession to the desire of the child for amusement, and in the upper grades, as having a distinctively technical, or even utilitarian and professional, aim. I know nothing in recent literature more likely to be effective in promoting this educational change and in bringing to light its significant possibilities than the volume now under review.

In conclusion, one ought to recognize the simplicity and clearness of the style of the volume. Because of the ease with which the material is handled and presented, it is likely that only the expert will adequately recognize the amount of actual scholarship and research packed into this little volume of two hundred pages. As a combination of fidelity to fact and truly popular presentation, it may well serve as a model for like attempts in the future.

JOHN DEWEY.

THE UNIVERSITY OF CHICAGO.

## NOTES.

### THE NATIONAL EDUCATION ASSOCIATION.

Boston, July 6 to 10, 1903.

THIS year it is Boston that is to receive the educational host, and from all accounts the eastern center of culture has, under the able administration of President Eliot, prepared a welcome for all. The Official Bulletin issued by Secretary Irwin E. Shepard, Winona, Minn., gives full information in regard to fares, side trips, hotels and lodging houses, local afternoon excursions, mail, and indeed it anticipates all questions that might be raised by anyone who wished the minutest information in regard to the great gathering. The arrangements seem to be ahead of anything ever attempted, and the meeting ought to be one of the most profitable in the history of the Association. The limitations of space prevent us from reprinting the Announcement, but copies may be had by addressing Mr. Shepard. The general directions and the program are given here so that our readers may know of the attractions and be able to appreciate our enthusiastic advocacy.

### PROGRAMS.

#### GENERAL SESSIONS.

(Session in Mechanics Hall.)

#### MONDAY EVENING, JULY 6.

*Blessing*—Rev. Edward Everett Hale, D.D., Boston, Mass.

*Addresses of Welcome*—Hon. John L. Bates, governor of the commonwealth of Massachusetts; Hon. Patrick A. Collins, mayor of the city of Boston; Henry S. Pritchett, president of the Massachusetts Institute of Technology, Boston, Mass.

*Replies*—Albert G. Lane, district superintendent of schools, Chicago, Ill.; Hon. W. T. Harris, United States Commissioner of Education.

1. President's Address—"The New Definition of the Cultivated Man," Charles W. Eliot, president of Harvard University, Cambridge, Mass.

2. "The Jeopardy of the Culture Element in Education"—E. Benjamin Andrews, chancellor of the University of Nebraska, Lincoln, Neb.

#### TUESDAY EVENING, JULY 7.

*Topic*: "Manual, Trade, and Technical Education"—Calvin M. Woodward, professor of mathematics and dean of the School of Engineering, Washington University, St. Louis, Mo.; Robert H. Thurston, professor of mechanical engineering, Cornell University, Ithaca, N. Y.; Thomas M. Balliet, superintendent of schools, Springfield, Mass.; Henry S. Pritchett, president of the Massachusetts Institute of Technology, Boston, Mass.

#### WEDNESDAY EVENING, JULY 8.

*Topic*: "School Gardens, City School Yards, and the Surroundings of Rural Schools"—Orville T. Bright, principal of the James R. Doolittle School, Chicago, Ill.; Charles R. Skinner, state superintendent of public instruction, Albany, N. Y.; Hon. Charles B. Aycock, governor of North Carolina; Henry L. Clapp, principal of the George Putnam School, Boston, Mass.

## THURSDAY EVENING, JULY 9.

1. "The Teaching of Civics and Good Citizenship in the Public Schools"—R. W. G. Welling, New York city.
2. "The Justification of City Expenditure on Parks and Parkways—Material for Public Education"—Hon. Nathan Matthews, Jr., Boston, Mass.
3. "The Nature-Study Movement"—L. H. Bailey, professor of general and experimental horticulture, Cornell University, Ithaca, N. Y.

## FRIDAY EVENING, JULY 10.

*Topic:* "Education in the Southern States"—Hon. Charles B. Aycock, governor of North Carolina; Wallace Buttrick, secretary and executive officer of the General Education Board, New York city; Edgar G. Murphy, secretary of the Southern Educational Board; Rev. Charles T. Walker, Augusta, Ga.

*NOTE.*—Owing to the change of the time of the opening session of the Boston Convention and the omission of all afternoon sessions, the time for the meeting of active members of the various states to select nominees for the General Nominating Committee, in accordance with By-law No. 1, is fixed for Tuesday morning at 9 o'clock at the respective state headquarters.

The Annual Meeting of Active Members will occur at 12 noon on Thursday, July 9. The place of meeting will be announced in the Official Program.

## THE NATIONAL COUNCIL.

(Sessions in Second Church in Boston.)

## MONDAY MORNING, JULY 6.

"The Voluntary Element in Education"—Charles De Garmo, professor of science and art of education, Cornell University, Ithaca, N. Y.

"Saving of Time in Elementary and Secondary Education"—Thomas M. Balliet, superintendent of schools, Springfield, Mass.; Mrs. Ella Flagg Young, professor of education, University of Chicago, Chicago, Ill.

## MONDAY AFTERNOON, JULY 6.

"The Educational Progress of the Year"—Wm. DeWitt Hyde, president of Bowdoin College, Brunswick, Me.

## TUESDAY MORNING, JULY 7.

"Religious Education"—George Albert Coe, professor of philosophy, Northwestern University, Evanston, Ill.; Rt. Rev. J. Lancaster Spalding, bishop of Peoria; W. T. Harris, U. S. Commissioner of Education.

## DEPARTMENT OF KINDERGARTEN EDUCATION.

(Sessions in South Congregational Church.)

## THURSDAY MORNING, JULY 9.

*Topic:* "The Extension of the Kindergarten Ideal into Other Fields of Education."

1. "Kindergarten Principles in Social Work"—Joseph Lee, vice-president of the Massachusetts Civic League, Boston, Mass.
2. "Kindergarten Principles in General Education"—Miss Sarah L. Arnold, dean of Simmons College, Boston, Mass.

General Discussion—Charles W. Eliot, president of Harvard University; Michael Anagnos, director Perkins Institution for the Blind, Boston, Mass.; James J. Greenough, master of Noble and Greenough's School, Boston, Mass.; F. Louis Soldan, superintendent of schools, St. Louis, Mo.

## FRIDAY MORNING, JULY 10.

*Topic:* "The Kindergarten and the Community."

1. "The Kindergarten an Uplifting Influence in the Home and the District"—Richard Watson Gilder, editor of the *Century Magazine*, New York city.
2. "The Power of the Kindergarten Training School in the Education of Young Women"—Miss Caroline M. C. Hart, Baltimore Kindergarten Association, Baltimore, Md.
3. "The Scope and Results of Mothers' Classes"—Miss Elizabeth Harrison, principal of The Kindergarten College, Chicago, Ill.

General Discussion—Mrs. Marion M. B. Langzettell, New York city; Mrs. Ella Flagg Young, professor of education, University of Chicago, Chicago, Ill.; Paul H. Hanus, professor of the history and art of teaching, Harvard University, Cambridge, Mass.

## DEPARTMENT OF ELEMENTARY EDUCATION.

(Sessions in South Congregational Church.)

TUESDAY MORNING, JULY 7.

1. "The Child and the Animal"—William J. Long, author of *Wood Folk*, etc., Stamford, Conn.
2. "Nature Study True to Life"—Clifton F. Hodge, Clark University, Worcester, Mass. Discussion—Wilbur S. Jackman, dean of School of Education, University of Chicago, Chicago, Ill.; Miss Emma G. Olmstead, principal of Training School, Scranton, Pa.
3. "The Child's Favorite Subject in the Elementary Curriculum"—Earl Barnes, staff lecturer of the American Society for Extension of University Teaching, Philadelphia, Pa.
4. "Breaking the Lock-Step"—William J. Shearer, superintendent of schools, Elizabeth, N. J. Discussion—J. H. Van Sickle, superintendent of schools, Baltimore, Md.; Miss Ada Van Stone Harris, supervisor of primary schools, Rochester, N. Y.

## DEPARTMENT OF SECONDARY EDUCATION.

(Sessions in Central Congregational Church.)

THURSDAY MORNING, JULY 9.

1. *President's Address*—Charles F. Wheelock, head inspector University of the State of New York, Albany, N. Y.
2. "Tendencies as to the Enlargement of the Secondary Field"—Rueben Post Halleck, principal of Boys' High School, Louisville, Ky.; George D. Pettee, principal of University School, Cleveland, O.; Wilson Farrand, head master of Newark Academy, Newark, N. J.; Isaac Thomas, principal of Edmunds High School, Burlington, Vt.
- General discussion.
3. *Conferences: Classics*—Leader, Henry White Callahan, head master, State Preparatory School, Boulder, Colo. *English*—Leader, Charles Swain Thomas, English Department, Shortridge High School, Indianapolis, Ind. *Principals*—Leader, William J. S. Bryan, principal of Normal and High School, St. Louis, Mo.; *topic*, "The Formation of a Federation of Secondary-School Associations."

FRIDAY MORNING, JULY 10.

1. "Co-education in the High School"—G. Stanley Hall, president of Clark University, Worcester, Mass.; Frank Fosdick, principal Masten High School, Buffalo, N. Y.; J. Remsen Bishop, principal of Walnut Hills High School, Cincinnati, O.; J. A. Bivins, principal of High School, Charlotte, N. C. Discussion.
2. "The Teaching of Argumentative Discourse in High Schools"—G. P. Baker, assistant professor of English, Harvard University, Cambridge, Mass.
3. *Conferences: Mathematics*—Leader, David Eugene Smith, professor of mathematics, Teachers College, Columbia University, New York city. *History*—Leader, James Sullivan, principal of School of Commerce, New York city.

## DEPARTMENT OF HIGHER EDUCATION.

(Sessions in Central Congregational Church.)

TUESDAY MORNING, JULY 7.

*Topic*: "The Length of the Baccalaureate Course, and the Preparation for the Professional Schools." Papers—Charles W. Eliot, president of Harvard University; Nicholas Murray Butler, president of Columbia University. Discussion—Elmer E. Brown, professor of theory and practice of education, University of California; Daniel W. Hering, professor of physics, Teachers College, Columbia University.

WEDNESDAY MORNING, JULY 8.

*Topic*: "Shall the University concern itself more directly with the morals and manners of its students? If so, by what methods and devices? Should there be in every college and university a medical visitor who should also be an advisor for students on all matters relating to health and disease?" Papers—George Harris, president of Amherst College; William J. Tucker, president of Dartmouth College; W. F. Slocum, president of Colorado College; Rev. Thomas Frank Gailor, bishop of Tennessee, Nashville, Tenn.

## DEPARTMENT OF NORMAL SCHOOLS.

(Sessions in Arlington Street Church.)

TUESDAY MORNING, JULY 7.

1. "The Future of the Normal School," Charles S. Chapin, principal of the State Normal School, Providence, R. I.

2. "The City Normal School of the Future," Francis Burke Brandt, professor of pedagogy, Central High School, Philadelphia, Pa.

General Discussion — Opened by C. F. Carroll, superintendent of schools, Worcester, Mass.; P. P. Claxton, professor of pedagogy, University of Tennessee, Knoxville, Tenn.

3. "Does the Teacher's Knowledge of a Subject Differ from the Scholar's Knowledge?" W. W. Parsons, president of State Normal School, Terre Haute, Ind.; David Eugene Smith, professor of Mathematics, Teachers College, New York city. Discussion — Opened by F. Louis Soldan, superintendent of schools, St. Louis, Mo.; John W. Cook, president of the Northern Illinois State Normal School, DeKalb, Ill.

#### WEDNESDAY MORNING, JULY 8.

1. Conditions for Admission to Normal Schools," Walter P. Beckwith, principal of the State Normal School, Salem, Mass.; R. H. Halsey, president of the State Normal School, Oshkosh, Wis. Discussion — Opened by C. T. McFarlane, principal of the State Normal School, Brockport, N. Y.; E. W. Bohannon, president of the State Normal School, Duluth, Minn.; E. L. Hendricks, superintendent of schools, Delphi, Ind.; Frank A. Hill, secretary of the State Board of Education, Boston, Mass.

2. "The Academic Side of Normal-School Work," Henry Johnson, teacher of history, Eastern Illinois State Normal School, Charleston, Ill.

3. "To What Extent and in What Manner Can the Normal School Increase its Scholarship: (a) Without Diminishing its Output; (b) Without Increasing its Cost Too Greatly; (c) Without Infringing upon the Legitimate Liberal Arts Course of the College?" — James M. Green, principal of the State Normal School, Trenton, N. J. Discussion — Opened by Albert Leonard, editor of the *Journal of Pedagogy*, Boston, Mass.; Henry G. Williams, dean of the State Normal College, Ohio University, Athens, O.; Charles DeGarmo, professor of the Science and Art of Education, Cornell University, Ithaca, N. Y.

#### DEPARTMENT OF MANUAL TRAINING.

(Sessions in Old South Church.)

#### TUESDAY MORNING, JULY 7.

Topic: "Trade Schools."

1. "The Demand for Trade Schools." (a) "From the Manufacturer's Point of View" — Milton P. Higgins, president of the Norton Emery Wheel Co., Worcester, Mass.; (b) "From the Educator's Point of View" — Arthur H. Chamberlain, principal of the Normal School of Throop Polytechnic Institute, Pasadena, Calif. Discussion — L. D. Burlingame, chief draughtsman, Brown & Sharpe Manufacturing Co., Providence, R. I.

2. "The Organization of Trade Schools." (a) "From the Point of View of the School Superintendent" — Thomas M. Balliet, superintendent of schools, Springfield, Mass.; (b) "From the Point of View of the Director of a Trade School" — Arthur L. Williston, director of the Department of Science and Technology, Pratt Institute, Brooklyn, N. Y. Discussion and Suggestions from Experience — Charles A. Bennett, head of Department of Manual Arts, Bradley Polytechnic Institute, Peoria, Ill.; Arthur A. Hamerschlag, consulting engineer, New York Trade School, New York city.

3. "Trade Schools and Workingmen's Organizations" — William H. Sayward, secretary of the National Association of Builders, Boston, Mass. Discussion.

#### WEDNESDAY MORNING, JULY 8.

(Joint Session with Art and Elementary Departments.)

Topic: "The Relation of Art Teaching to Manual Training and Industrial Training."

1. "Craftsmanship in Education" — Leslie W. Miller, principal of the School of Industrial Art of the Pennsylvania Museum, Philadelphia, Pa. Discussion — Laurin H. Martin, instructor in applied design, Massachusetts Normal Art School, Boston, Mass.; Robert D. Andrews, architect, Boston, Mass.; Albert Kingsbury, professor of applied mechanics, Worcester Polytechnic Institute, Worcester, Mass.; Walter S. Goodnough, director of art and manual training, Public Schools, Brooklyn, N. Y.

2. "Art Instruction as Related to Manual Work" — Alfred Vance Churchill, director of Department of Fine Arts, Teachers College, Columbia University, New York city. Discussion — (a) "With Relation to Elementary Schools" — James Frederick Hopkins, director of drawing, Public Schools, Boston, Mass.; (b) "With Relation to the High School" — Fred H. Daniels, supervisor of drawing, Springfield, Mass.; (c) "From the Point of View of the Manual-Training Teacher" — Luther W. Turner, instructor in Manual Training, Hill School, Pottstown, Pa.

3. "Indian Basketry: Its Poetry and Symbolism" — George Wharton James, Pasadena, Calif.

## THURSDAY MORNING, JULY 9.

(Joint Session with Indian and Elementary Departments.)

*Topic:* "Practical Suggestions on a Wide Application of the Manual-Training Principle."

1. "Some Reasons Why Elementary Schools Should Include Manual Training in Their Courses of Instruction"—Elizabeth Euphrosyne Langley, assistant in manual training, School of Education, University of Chicago, Chicago, Ill.

"The Boy and His Handicraft"—George H. Bryant, president of the Eastern Manual-Training Association, Newport, R. I.

General Discussion—Frank M. Leavitt, supervisor of manual training, Boston, Mass.; Carroll G. Pearce, superintendent of schools, Omaha, Neb.

3. "Hand Work for High-School Girls"—Miss Abby L. Marlatt, instructor in Domestic Science, Manual Training High School, Providence, R. I., chairman of the Lake Placid Conference on Home Economics.

4. "The Practical Value of Manual Training"—James P. Haney, M. D., director of manual training, New York city.

General Discussion—Miss Lillie Collamore Smith, instructor in domestic science, High School, Brookline, Mass.; Arthur D. Dean, first assistant, Mechanic Arts High School, Springfield, Mass.; Calvin N. Kendall, superintendent of schools, Indianapolis, Ind.

## DEPARTMENT OF ART EDUCATION.

(Sessions in Old South Church.)

## FRIDAY MORNING, JULY 10.

1. "The Teaching of Art"—Denman W. Ross, lecturer on the theory of design, Harvard University, Cambridge, Mass. Discussion—Questions.

2. "Considerations for a Practical Study of Drawing in Public Schools"—Miss Bonnie E. Snow, supervisor of drawing, Minneapolis, Minn. Discussion—Charles M. Carter, director of art, city schools, Denver, Colo.; Solon P. Davis, director of art, city schools, Hartford, Conn.; William A. Mason, director of art, city schools, Philadelphia, Pa.

## DEPARTMENT OF MUSIC EDUCATION.

(Sessions in New England Conservatory of Music.)

## WEDNESDAY MORNING, JULY 8.

1. President's Address—Sterrie A. Weaver, supervisor of music, Westfield, Mass., and Torrington, Conn.

2. "The Training in Sight-Singing and Song Interpretation Which the Body of Normal-School Students Should Receive"—C. A. Fullerton, teacher of music, State Normal School, Cedar Rapids, Iowa; Julia E. Crane, Normal Institute of Music, Potsdam, N. Y.; A. Stanley Osborne, teacher of music, State Normal School, New Paltz, N. Y.; Miss Caroline V. Smith, teacher of music, State Normal School, Winona, Minn.

3. "The Real Purpose of Teaching Public-School Music"—Samuel W. Cole, supervisor of school music, Brookline, Mass.; Miss Mary Macskinner, principal of the Pierce School, Brookline, Mass.

4. "School Music—Has It Made Music Readers?" George W. Wilmot, supervisor of music, New Brunswick, N. J.; Ralph Baldwin, supervisor of school music, Northampton, Mass.

## THURSDAY MORNING, JULY 9.

1. "Harmony as a Subject to be Counted for Admission to College"—Eugene D. Russell, principal of Classical High School, Lynn, Mass.

(Program incomplete.)

## DEPARTMENT OF BUSINESS EDUCATION.

(Sessions in First Church in Boston.)

## TUESDAY MORNING, JULY 7.

1. President's Address—"Commercial Education: Cultural or Vocational, Which?" J. H. Francis, principal of the Commercial High School, Los Angeles, Calif.

2. "Commercial Education and College-Entrance Requirements"—W. A. Scott, director of the school of commerce, University of Wisconsin, Madison, Wis.

General Discussion.



3. "The Disciplinary Value of Bookkeeping as a Study"—Enos Spencer, president Spencerian Business College, Louisville, Ky.

4. "History in Commercial Work—Its Practical Value, Character, and Place in the Course"—C. A. Herrick, professor of history, Central High School, Philadelphia, Pa.

General Discussion.

#### WEDNESDAY MORNING, JULY 8.

1. "Commercial Geography: The New Science—Its Practical Value, Character, and Place in the Course"—Frank O. Carpenter, master, Department of Commerce and Law, English High School, Boston, Mass.

2. "Science in Commercial Work—Its Practical Value, Character, and Place in the Course"—Frank M. Gilley, instructor in physics and chemistry, High School, Chelsea, Mass.

3. "Mathematics in Commercial Work—Its Practical Value, Character, and Place in the Course"—E. L. Thurston, instructor in mathematics, Business High School, Washington, D. C.

4. "The Disciplinary Value of Stenography and Typewriting as Studies"—W. H. Wagner, instructor in stenography and typewriting, Commercial High School, Los Angeles, Calif.

General Discussion.

#### FRIDAY MORNING, JULY 10.

##### *Round Table Conference.*

Subject: Report of the Committee of Ten on "A Commercial Course for American High Schools"

—D. W. Springer, chairman, Ann Arbor, Mich.

### DEPARTMENT OF CHILD STUDY.

(Sessions in First Baptist Church.)

#### TUESDAY MORNING, JULY 7.

*Topic:* "Child Study in Relation to Elementary Education."

1. "A Study Based on the Children of a State"—Earl Barnes, staff lecturer of American Society for Extension of University Teaching, Philadelphia, Pa. Discussion—Miss Lillie A. Williams, professor of psychology, State Normal School, Trenton, N. J.

2. "The Teacher's Practical Application of the Results of Child Study"—F. E. Spaulding, superintendent of schools, Passaic, N. J. Discussion—George E. Johnson, dean of Lower School, University School, Cleveland, O.; Ida C. Bender, M. D., supervisor of primary grades, Buffalo, N. Y.

3. "The Health and Growth of School Children"—W. W. Hastings, professor of physical training, International Y. M. C. A. Training School, Springfield, Mass. Discussion—George W. Fitz, M. D., Boston, Mass.

4. "School Hygiene in its Bearing on Child Life"—Thomas D. Wood, M. D., professor of physical education, Teachers College, Columbia University, New York city. Discussion—"Medical Inspection of Schools"—Homer W. Zirkle, principal of the Elmwood School, Denver, Colo.; C. P. Cary, state superintendent of public instruction, Madison, Wis.

#### THURSDAY MORNING, JULY 9.

*Topic:* "Child Study in Relation to Secondary Education."

1. "Sex Differentiation in Relation to Secondary Education"—A. H. Yoder, professor of pedagogy, University of Washington, Seattle, Wash. Discussion—Edwin D. Starbuck, associate professor of education, Stanford University, Calif.; Z. X. Snyder, president state normal school, Greeley, Colo.

2. "The Percentage of Boys Who Leave the High Schools, and the Reasons Therefor"—A. Caswell Ellis, associate professor of education, University of Texas, Austin, Tex. Discussion—J. W. Carr, superintendent of schools, Anderson, Ind.

3. "How to Increase the Attendance of Boys in the High School"—J. K. Stableton, superintendent of schools, Bloomington, Ill. Discussion—(1) "Self-Direction as a Motive for Increasing Attendance"—Colin A. Scott, Boston Normal School, Boston, Mass.; (2) "Influence of Men and Women Teachers"—Sanford Bell, professor of pedagogy, Mt. Holyoke College, South Hadley, Mass.

4. "Psychic Arrest in Adolescence"—G. Stanley Hall, president of Clark University, Worcester, Mass. Discussion.

### DEPARTMENT OF PHYSICAL TRAINING.

#### WEDNESDAY MORNING, JULY 8.

1. President's Address, "Physical Education and Brain-Building"—William O. Krohn, Chicago, Ill.

2. "Physical Sanity and Outdoor Life"—Frederick Manley, author and lecturer, Boston, Mass.

3. "The Place of Physical Education in the Curriculum: Should it be Fundamental or Incidental?"—E. W. Lyttle, inspector of schools, University of the State of New York, Albany, N. Y.

4. Symposium—"How to Improve Public-School Gymnastics" (five minutes allowed each speaker). Luther M. Gurlick, Pratt Institute, Brooklyn, N. Y.; E. H. Arnold, New Haven, Conn.; Miss Amy Morris Homans, Boston Normal School of Gymnastics, Boston, Mass.; Thomas D. Wood, Columbia University, New York city; Miss A. C. Skeele, State Normal School, North Adams, Mass.; Miss Edith MacClure Love, director Woman's Gymnasium, State Normal School, Terre Haute, Ind.; Miss Mabel L. Pray, director physical training, public schools, Toledo, O.; James Fitzgerald, director physical training, public schools, Boston, Mass.

#### WEDNESDAY AFTERNOON (2 o'clock).

Illustrative Exercises in Physical Training, directed by Baroness Rose Posse, vice-president of the Department.

#### FRIDAY MORNING, JULY 10.

1. "Tests of Efficiency in Normal-School Gymnastics"—Baroness Rose Posse, director of Posse Gymnasium, Boston, Mass.

2. "Physical Training for the Mass of Students"—Dr. William G. Anderson, director of the gymnasium, Yale University, New Haven, Conn.; F. N. Whittier, director of the gymnasium, Bowdoin College, Brunswick, Me. Discussion—John R. Kirk, president of the State Normal School, Kirksville, Mo.

3. "Recreative Physical Exercise"—Ernst Hermann, superintendent of the Thomas G. Plant Company's Gymnasium for its Employees, Boston, Mass.

#### DEPARTMENT OF SCIENCE INSTRUCTION.

(Sessions in First Church in Boston.)

#### THURSDAY MORNING, JULY 9.

##### Topic: "Geology and Geography."

1. "Practical Methods in the Teaching of Geology"—N. S. Shaler, professor of geology, Harvard University, Cambridge, Mass.

2. "Out-of-Door Class Work in Geography"—F. P. Gulliver, teacher of geography, St. Mark's School, Southboro, Mass.

3. "Some Practical Methods of Geography Teaching in the Grades"—Mrs. L. A. Hitchcock, special teacher of geography, public schools, Meriden, Conn.

##### Topic: "Botany and Zoology."

1. "The Teaching of Biology in the High Schools"—A. S. Pearse, head of biological department, Omaha High School, Omaha, Neb.

2. "The Normal-School Side of Biologic Instruction"—L. J. Rettger, department of biology, Indiana State Normal School, Terre Haute, Ind.

##### Topic: "Physiology."

1. "Laboratory Teaching of Physiology"—W. T. Porter, M.D., professor of physiology, Harvard Medical School, Boston, Mass.

2. "Laboratory Work in High-School Physiology"—James E. Peabody, department of biology, Morris High School, New York city.

#### FRIDAY MORNING, JULY 10.

##### Topic: "Chemistry."

1. "College Chemistry and its Relation to Work Preparatory to it"—Ira Remsen, president of Johns Hopkins University, Baltimore, Md.

2. "High-School Chemistry in its Relation to the Colleges"—Rufus P. Williams, teacher of chemistry, English High School, Boston, Mass.

General discussion—(a) "From the College Standpoint"—H. P. Talbot, professor of analytical chemistry, Massachusetts Institute of Technology, Boston, Mass.; (b) "From the High-School Standpoint"—Lyman G. Smith, president of the New England Association of Chemistry Teachers; Albert S. Perkins, senior teacher of chemistry, High School, Dorchester, Mass.; (c) "The Normal-School View of Chemistry Teaching"—Lyman C. Newell, instructor of chemistry and Physics, State Normal School, Lowell, Mass.; (d) "From the City Superintendent's Point of View"—W. F. Kunze, superintendent of schools, Red Wing, Minn.

##### Topic: "Physics."

1. "College Physics"—LeRoy C. Cooley, professor of physics, Vassar College, Poughkeepsie, N.Y.

2. "The High-School Phase of Physics Teaching"—Irving O. Palmer, teacher of physics, High

School, Newtonville, Mass.; George R. Twiss, department of science, Central High School, Cleveland, O.; J. C. Packard, High School, Brookline, Mass.

3. "A Course in Physics for Technical High Schools"—Charles F. Warner, principal of Mechanic Arts High School, Springfield, Mass.

#### DEPARTMENT OF SCHOOL ADMINISTRATION.

(Sessions in Normal Art School.)

WEDNESDAY MORNING, JULY 8.

1. "School Boards: Number of Members, Term of Service, Mode of Selection"—Calvin W. Edwards, president of the Board of Education, Albany, N. Y.; Grafton D. Cushing, president of the School Committee, Boston, Mass. Discussion—John E. Myer, member of Board of Education, Auburn, N. Y.; Charles Holden, member of Board of Education, Grand Rapids, Mich.; H. H. Shedd, Ashland, Neb.

2. "School Boards, Their Functions: Legislative, Executive, and Judicial"—B. F. Hunsicker, president of Board of Education, Reading, Pa. Discussion—Joseph Packard, president of Board of Education, Baltimore, Md.; L. C. Newton, president of Board of Education, Detroit, Mich.; Henry A. Rogers, president of Board of Education, New York city; A. Lawrence Lowell, ex-member of the School Committee, Boston, Mass.

THURSDAY MORNING, JULY 9.

1. "Consolidation of Rural Schools"—W. K. Fowler, state superintendent of Public Instruction, Lincoln, Neb.; Frank A. Hill, secretary of the State Board of Education, Boston, Mass. Discussion—O. J. Kern, superintendent of country schools, Rockford, Ill.; L. D. Bonebrake, state school commissioner, Columbus, O.

2. "Schoolhouse Architecture"—Edmund M. Wheelwright, school architect, Boston, Mass. Discussion—C. H. Parsons, school architect, Des Moines, Iowa.

#### LIBRARY DEPARTMENT.

(Sessions in Second Church in Boston.)

WEDNESDAY MORNING, JULY 8.

*General Theme:* "Co-operation of the Public Libraries with the Public Schools."

1. Announcements and brief Opening Address by the President of the Department, James H. Canfield, librarian of Columbia University, New York city.

2. "Some Co-operative Suggestions"—Alfred Bayliss, state superintendent of public instruction, Springfield, Ill.

3. "Public Library Work for Public Schools"—Miss Electra C. Doren, librarian, Public Library, Dayton, O.

4. "Class Libraries"—C. G. Leland, director of school libraries, New York city.

5. "Is the Public Library a Promptuary for the Public Schools?"—N. D. C. Hodges, librarian, Public Library, Cincinnati, O.

General Discussion—Opened by Fred W. Nichols, superintendent of schools, Evanston, Ill.

FRIDAY MORNING, JULY 10.

1. Address by Representative of the American Library Association.

2. "The Library as an Adjunct to the Secondary School"—K. O. Holland, Male High School, Louisville, Ky.

3. "Some Experiments in Nebraska"—Miss Clara B. Mason, principal of the Clifton Hill School, Omaha, Neb.

4. "From the School to the Library"—Charles B. Gilbert, New York city.

5. "Library Instruction in the Normal Schools"—William H. Brett, librarian, Public Library, Cleveland, O.

6. "What May Be Accomplished by Definite Instruction in the Normal Schools"—Miss Mary Eileen Ahern, editor of *Public Libraries*, Chicago, Ill.

General Discussion—Opened by Nathan C. Schaeffer, state superintendent of public instruction, Harrisburg, Pa.; continued by James M. Green, principal of the State Normal School, Trenton, N. J.; and Eliphalet Oram Lyte, principal of the State Normal School, Millersville, Pa.

## DEPARTMENT OF SPECIAL EDUCATION.

(Sessions in First Baptist Church.)

WEDNESDAY MORNING, JULY 8.

1. President's Address—Edward E. Allen, principal of the Pennsylvania Institution for the Instruction of the Blind, Philadelphia, Pa.
2. "The Influence of the Study of the Unusual Child upon the Teaching of the Usual"—Frank H. Hall, ex-superintendent of the Institution for the Blind, Jacksonville, Ill.; George E. Johnson, dean of the lower school, University School, Cleveland, O. Discussion—Francis Burke Brandt, professor of pedagogy, Central High School, Philadelphia, Pa.
3. "Should the Scope of the Public-School System be Broadened to Take in All Children Capable of Education; and, if so, How Should This be Done?"—Alexander Graham Bell, Washington, D. C.; Miss Mary C. Green, ex-superintendent of special classes for the blind in the board schools, London, England. Discussion—Thomas D. Woods, M.D., professor of physical training, Teachers College, Columbia University, New York city; Miss Ellen Le Garde, director of physical training, including that of backward children, public schools, Providence, R. I.; G. Ferreri, ex-vice-principal of the School for the Deaf, Siena, Italy.
4. "Report of Commission on Statistics Relative to Children in the Public Schools of the United States Who Need Special Methods of Instruction"—F. W. Booth, editor *Association Review*, Philadelphia, Pa.

FRIDAY MORNING, JULY 10.

1. "How Can the Term 'Charitable' be Justly Applied to the Education of any Children?"—Charles W. Birtwell, general secretary, Children's Aid Society, Boston, Mass.; Edward A. Fay, vice-president of Gallaudet College, Washington, D. C., editor of *American Annals of the Deaf*. Discussion.
2. "What Teachers Need to Know about Sense Defects and Impediments: Messages Chiefly from Specialists in Medicine"—Clarence J. Blake, M.D., professor of otology, Harvard Medical School, Boston, Mass.; Myles Standish, M.D., instructor in ophthalmology, Harvard Medical School, Boston, Mass.; Allen Greenwood, M.D., ophthalmologist, Boston, Mass.; Eugene Crockett, M.D., specialist on diseases of the nose and naso-pharynx, Boston, Mass.; Mrs. E. J. Ellery Thorpe, specialist on speech defects, Newton Center, Mass. Discussion.

## DEPARTMENT OF INDIAN EDUCATION.

(Sessions in Huntington Hall.)

TUESDAY MORNING, JULY 7.

*Topic: "Citizenship."*

1. President's Address: "Our Work, Its Progress and Needs"—H. B. Peairs, superintendent Haskell Institute, Kansas (20 minutes).
2. "The Essential Qualifications for Good Citizenship."—Dr. James H. Canfield, librarian of Columbia University, New York city (20 minutes).
3. Address—Dr. Sheldon Jackson, general agent of education in Alaska.
4. "To What Degree has the Present System of Indian Schools been Successful in Qualifying for Citizenship?"—Dr. H. B. Frissell, principal of Hampton Normal and Agricultural Institute, Va. (20 minutes).
5. "Some of the Conditions Which Prevent a Greater Degree of Success in Qualifying for Citizenship"—(a) Office—J. H. Dortch, Washington, D. C. (7 minutes); (b) Training Schools—Wm. M. Peterson, assistant superintendent, Chillicothe, Okla. (7 minutes); (c) Reservation Schools—E. D. Mossman, superintendent Cheyenne River School, South Dakota (7 minutes); (d) Field—Jesse F. House, supervisor of Indian Schools (7 minutes).
6. "Preparing the Indian Boy and Girl for Vigorous Struggles with the Conditions under Which Their People Live"—J. E. Jenkins, inspector of Indian schools (20 minutes).
7. "Local Conditions; Special Training"—(a) North—Chas. F. Pierce, superintendent Riggs Institute, South Dakota (7 minutes); (b) Southwest—to be supplied; (c) Oklahoma, Indian Territory, and North Central States—L. M. Compton, superintendent Tomah School, Wisconsin (7 minutes); F. A. Thackery, superintendent Shawnee School, Oklahoma (7 minutes); (d) Northwest—E. L. Chalcraft, supervisor, Indian Schools (7 minutes).

*Resolved*, That any expenditure of public money to segregate Indians and to build up and strengthen their tribal life is unwarranted because against the best interests of both the Indians and the government.—Col. R. H. Pratt, superintendent Carlisle Indian School, Pennsylvania (20 minutes).

## WEDNESDAY MORNING, JULY 8.

*Topic: "Character Building."*

1. Address—Edwin A. Alderman, president of Tulane University, New Orleans, La. (20 minutes.)
2. "The White Man's Burden *versus* Indigenous Development for the Lower Races"—G. Stanley Hall, president of Clark University, Worcester, Mass. (20 minutes.)
3. Address, William R. Harper, president of University of Chicago. (20 minutes.)
4. "Heart Culture"—Charles F. Meserve, president of Shaw University, Raleigh, N. C. (20 minutes.)
5. "The Distribution of Good Literature among Indian Students"—Miss Frances C. Sparhawk, Newton Center, Mass. (7 minutes.)
6. "Establishment of Employment Bureaus for Former Students"—Dr. Merrill E. Gates, Board of Indian Commissioners, Washington, D. C. (Conditional.)
7. Give Indians Work Instead of Annuities"—John R. Brennan, Indian Agent, Pine Ridge, S. D.
8. "Cultivating the Work Spirit among Indian Pupils"—Axel Jacobsen, superintendent of Indian School, Wittenburg, Wis.
9. Address—John R. Clarke, Boston, Mass.

## FRIDAY MORNING, JULY 10.

*Industrial and Miscellaneous Round Table:*

1. Address—Dr. A. E. Winship, Boston, Mass. (20 minutes.)
2. Address—Frank Wood, Boston, Mass. (7 minutes.)
3. Address—Hamlin Garland, New York city.
4. "Native Industries"—Mrs. J. C. Hart, principal teacher, Oneida Indian School, Oneida, Wis. (5 minutes.)
5. "Transfer of Indian Children"—Edgar A. Allen, assistant superintendent of Indian School, Carlisle, Pa. (10 minutes.)
6. "School Gardens and Improvement of School Grounds"—Miss Louise Klein-Miller, Lowthorpe-Groton, Mass. (20 minutes.)
7. "Co-operation of Indian Schools with Local State Agricultural Schools"—A. O. Wright, supervisor of Indian Schools. (20 minutes.)
8. "Agricultural Instruction in Reservation Schools"—J. Thomas Hall, superintendent Crow Creek School, South Dakota; C. F. Werner, principal teacher, Flathead School, Montana. (5 minutes each.)
9. "The First and Most Important Step toward the Absorption of the Indian is to Teach Him to Earn His Living"—Miss M. Burgess, superintendent of printing, Carlisle, Pa. (7 minutes.)

NOTE—There will be an exhibit of Indian trade-school work, of Indian basketry and other handicrafts, and of manual-training work for boys and girls of all grades of Indian schools, in the rooms adjoining Huntington Hall on the second floor of the Rogers Building of the Massachusetts Institute of Technology. A general invitation to members and to the citizens of Boston to inspect this exhibit is cordially extended.

## MEMBERSHIP REGISTRATION BUREAU—JOINT RAILWAY AGENCY—COMMITTEE ON ACCOMMODATIONS.

By courtesy of the president and faculty of the Massachusetts Institute of Technology, the Membership Registration Bureau, the Joint Railway Agency, and the Local Committee on Assignment of Accommodations will be located in the Walker Building of the Institute, on Copley Square, opposite Trinity Church.

All persons attending the convention should report immediately on arrival in Boston at the Registration Bureau, exchange the railway membership coupon for an N. E. A. membership certificate and badge, and at the same time deposit the railway ticket with the Joint Railway Agent if extension of time for return is desired. In all cases the membership registration should be made before the railway ticket is deposited with the Joint Agent. The assignment of boarding accommodations will be made at the same time and place to registered members only.

All persons may register as members, either Active or Associate, by surrendering the railway membership coupon or by paying the membership fee. A statement of conditions and advantages of Active membership may be found on another page.

## THE PURCHASE OF TICKETS.

Care should be taken in the purchase of tickets to see that a special "N. E. A." ticket is obtained bearing an N. E. A. membership coupon which will, by exchange in Boston, as above directed, secure all

special reduced rates and other privileges of membership, including a "Coupon for the Volume" of Proceedings of the Boston convention.

In all cases the purchaser should read the contract on the ticket and secure from the selling agent explanations of any provisions not fully understood. This will prevent errors, which are always embarrassing and often impossible to correct later.

#### DEPOSIT AND VALIDATION OF TICKETS.

It should be remembered that no tickets are good for return from Boston before July 8; that tickets on which extension of time is desired for return later than July 12 must be deposited with the Joint Agent before 6 P. M., July 11; and that all tickets, whether deposited or not, must be validated by the Joint Agent immediately before starting on the return trip.

A charge of fifty cents will be made by the Joint Agent for the deposit and validation of each ticket on which extension is granted; and a charge of twenty-five cents for each ticket not extended requiring validation only.

Tickets issued by the Eastern Steamship Company requiring extension of time limit for return must be deposited with the General Passenger Agent of that line at Foster's Wharf, Boston.

#### DEPOTS.

Passengers entering Boston via the lines of the Boston & Maine Railroad will arrive at the North Station and may reach Copley Square and the N. E. A. Headquarters via elevated trains and the Subway, changing (without extra fare) to trolley cars at the Park Street Subway Station.

Passengers arriving via the Boston & Albany Railroad are advised to leave the train at the Huntington Avenue Station, one block from Copley Square; passengers arriving over the lines of the New York, New Haven & Hartford Railroad should leave the train at the Back Bay station, one block from Copley Square.

If passengers go into the terminal (South) station a transfer to Copley Square may be made via elevated trains and the Subway, changing (without extra fare) to trolley cars at Park Street Subway Station.

Passengers arriving by any of the steamship lines will land at some wharf along Atlantic avenue, and are advised to take a north bound elevated train via North Station and the Subway, transferring (without extra fare) at Park Street Subway Station to trolley cars passing through Copley Square.

Special messengers and guides will be in attendance on and after July 3 at all stations and wharves to direct and assist N. E. A. visitors.

#### MEMBERSHIP.

*Active membership*—The present active membership of the Association includes over 3,000 of the leading teachers in the United States.

All teachers and others actively associated with educational institutions, including libraries and periodicals, may become active members by paying an enrolment fee of \$2, in addition to the annual dues (\$2), which may be discharged by surrendering the railway membership coupon at the Registration Bureau.

Active membership implies permanent membership and continues until notice of discontinuance is sent to the Secretary. Among the many special advantages of active membership may be mentioned the following:

1. Active and permanent connection with the National Educational Association and its work.
2. Publication of name (with titles of degree, if any) and educational position in the active membership list, which now constitutes the most valuable educational directory issued.
3. The annual volume of Proceedings without "coupon" or other conditions, together with bulletins of information and other publications issued by the Association.
4. The privilege of voting, holding office, and sharing in the business management of the Association and its departments.
5. Many special privileges at the time of the annual convention which are extended to active members as the delegate and representative body of the Association.

Active members already enrolled are especially requested to announce the fact of such membership at the Registration Bureau at Boston, that the proper certificate and badge (blue) may be issued, and credit of dues paid entered on the records.

*Associate membership*—Associate membership certificates will be issued to those who are not engaged in educational work, as well as to those who may be eligible to active membership, but who do not choose to enroll as such.

#### REVIEW.

The Executive Committee submits the foregoing bulletin of programs, railroad rates, and local arrangements for the Forty-second Annual Convention in confidence that it will convey assurance of a large and successful meeting at Boston in July.

While the chief concern has been to present the best possible programs for both general and department sessions, it has been the aim also to provide ample opportunities and facilities for visiting the many points of historical, literary, and educational interest in and about Boston. To this end all sessions of the Convention will be held in forenoons and evenings only, leaving the afternoons free for recreation and excursions.

These excursions will be under the direction of the Local Committee, who will provide valuable guide books and a sufficient number of expert conductors to insure the utmost profit as well as entertainment.

The generous plans of the American Institute of Instruction, supported by the state associations and other educational organizations of New England, for the social entertainment of the members at Rogers Hall promise to constitute a delightful and valuable feature of convention week.

The provisions for the extension of tickets for return until September 1 will enable members to spend the vacation season in New England at any of the various mountain and seaside resorts, or in the quiet of New England homes. The railway lines leading from Boston are preparing complete guides to these resorts showing rates, routes, and cost of living at various points. These may be had on application to the Local Executive Committee, Room 701, No. 60 State street, Boston, Mass.

Attention is called to the excellent arrangement by which all meetings are to be held in the immediate vicinity of Copley Square. Admission to these meetings will be on membership badge or certificate. Special seats will be reserved for active members and their families until the hour of opening each session, when reserved seats not occupied will be thrown open to all members alike.

It should be noted that all states, without exception, are accommodated with headquarters rooms in hotels immediately about Copley Square, and that the Membership Registration Bureau, Joint Railway Agency, and Accommodations Committee, as well as the headquarters of the Executive Committee and department officers, are located on Copley Square at the center of all meeting places.

Active Members of the Association and others are invited to send to the Secretary, undersigned, addresses of those who will be interested to receive this Program-Bulletin, and to co-operate with their respective State Directors and Managers in extending information of the Forty-Second Annual Convention.

CHARLES W. ELIOT,  
President N. E. A., Cambridge, Mass.

IRWIN SHEPARD,  
Secretary, N. E. A., Winona, Minn.

### A CARD

*If you are coming to Boston to attend the N. E. A. convention you are cordially invited to visit the oldest publishing house in the city, a house which traces its origin back to 1784. This firm publishes the works of Francis Parkman, Louisa M. Alcott, Edward Everett Hale, Helen Hunt Jackson, Capt. A. T. Mahan, Henryk Sienkiewicz, Daniel Webster, and other great writers. Besides works in general literature, books of the greatest value for supplementary reading and school and academy libraries are published by this house. Our retail store and publishing department are located at 254 Washington St.*

## A TRIO OF NEW BOOKS

### A COMPREHENSIVE SURVEY

#### American Literature in Its Colonial and National Periods

By LORENZO SEARS, L.H.D., Professor of American Literature in Brown University. 8vo. Cloth, gilt top. 480 pages. \$1.50, net.

"Professor Sears is more safe and traditional than Mr. Barrett Wendell; yet, it must be observed, he is always interesting. The union of these qualities makes his book an admirable one for academic use. In fact, for advanced classes it is the most adequate history of American literature that the reviewer has ever read."—*Outlook*, New York.

### HISTORY IN PARKMAN'S OWN WORDS

#### The Struggle for a Continent

Edited from the writings of FRANCIS PARKMAN by PELHAM EDGAR, Professor in the French Language and Literature, Victoria College, University of Toronto. 12mo. 540 pages. Maps, portraits and other illustrations. \$1.50, net.

"As supplementary reading to a course in American history we can imagine nothing better."—*Churchman*, New York.

### RICH IN SUGGESTIVE MATERIAL

#### America in Its Relation to Great Epochs of History

By WILLIAM JUSTIN MANN. 16mo. Cloth. \$1.00, net.

"A book which should be added to the list of 'supplementary reading' for every teacher, as well as those dry-as-dust seekers who lack imagination and perspective and who cannot trace back the antecedents of an event."—*Literary World*, Boston.

Send for "Books for Schools" booklet.

**LITTLE, BROWN & CO., 254 Washington St., Boston**

## INDEX TO VOLUME III.

### ARTICLES.

|                                                                                   | PAGE          |
|-----------------------------------------------------------------------------------|---------------|
| Arithmetic Considered as a Utilitarian Study, Cliff W. Stone - - -                | 533           |
| Art, Syllabi of Courses, Summer Quarter, 1902 - - -                               | 37            |
| Art, Syllabi of Courses, Summer Quarter, 1903 - - -                               | 585           |
| Art Teaching, Elementary, in the Laboratory School, Lillian S. Cushman -          | 680           |
| Books and Libraries, Use of, Irene Warren - - -                                   | 620           |
| Botany in Elementary Schools, John M. Coulter - - -                               | 409           |
| Chalk-Modeling, Syllabi of Courses, Summer Quarter, 1902 - - -                    | 40            |
| Character Study and Education, Thomas P. Bailey, Jr. - - -                        | 355           |
| Child Hygiene, Syllabi of Courses, 1903 - - -                                     | 593           |
| Children, Psychological Observation of, Willard C. Gore - - -                     | 307           |
| Clay-Modeling, Syllabi of Courses, Summer Quarter, 1902 - - -                     | 39            |
| College of Education, Organization and Curricula of, John Dewey - - -             | 553           |
| Cooking, Elementary, in Laboratory School, Althea Harmer - - -                    | 706           |
| Drawing, Outline, for Little Children, John Duncan - - -                          | 488           |
| Economics, Home, Alice P. Norton - - -                                            | 128           |
| Economics, Household, Syllabi of Courses, Summer Quarter, 1903 - - -              | 595           |
| Education, Syllabi of Courses, Summer Quarter, 1903 - - -                         | 563           |
| English in Elementary Schools, E. H. Lewis - - - I, 103; II,                      | 160           |
| English Grammar Teaching, Foundations of, Gertrude Buck - - -                     | 480           |
| English, True Place of, in Public-School Work, Helen F. Grenfell - - -            | 171           |
| Fairy Tales as Literature in the School, Porter Landor MacClintock - - -          | 609           |
| Folksong in Music Study, Eleanor Smith - - -                                      | 638           |
| French, Lorley Ada Ashléman - - -                                                 | 194, 264      |
| French, Syllabi of Courses, Summer Quarter, 1902 - - -                            | 53            |
| Froebel, From Rousseau to, Anna Tolman Smith - - -                                | 156           |
| Function of Scientific Study, Thomas Crowder Chamberlain - - -                    | 337           |
| Geography, Zonia Baber - - - I, 110; II,                                          | 228           |
| Geography and Mental Images, George H. Bettes - - -                               | 506           |
| Geography, Syllabi of Courses, Summer Quarter, 1902 - - -                         | 24            |
| Grade Outlines - - -                                                              | 240, 384, 446 |
| Grammar, English, Foundations of Teaching, Gertrude Buck - - -                    | 480           |
| Grammar School, The, Frank A. Manny - - -                                         | 165           |
| History Teaching, Elementary, in the Laboratory School, Laura L. Runyon -         | 694           |
| History, Syllabi of Courses, Summer Quarter, 1902 - - -                           | 16            |
| History, Syllabi of Courses, Summer Quarter, 1903 - - -                           | 587           |
| Home Economics, Alice P. Norton - - -                                             | 128           |
| Household Economics, Syllabi of Courses, Summer Quarter, 1903 - - -               | 595           |
| How and Why Do We Learn? C. B. Gilbert - - I, 141; II, 289; III,                  | 425           |
| Hygiene, Child, Syllabi of Courses, Summer Quarter, 1903 - - -                    | 593           |
| Ideal, Enrichment of the Teacher's, Anna Tolman Smith - - -                       | 513           |
| Kindergarten, Outline for October, November, December, Anne Elizabeth Allen - - - | 235           |
| Kindergarten, Pedagogy of, Syllabi of Courses, Summer Quarter, 1902 -             | 5             |
| Kindergarten, Plan for Spring Quarter, Anne Elizabeth Allen - - -                 | 444           |
| Kindergarten Programs, Anne Elizabeth Allen - - -                                 | 380           |
| Kindergarten, Relation of, to the Primary School, Emma A. Newman -                | 434           |
| Kindergarten, The Place of, Alice C. Dewey - - -                                  | 273           |
| Kindergartner, Training of, Bertha Payne - - -                                    | 603           |



|                                                                                                       | PAGE |
|-------------------------------------------------------------------------------------------------------|------|
| Kindergartners, Outline of Training Course, Bertha Payne - - -                                        | 132  |
| Laboratory School:                                                                                    |      |
| Elementary Art Teaching in, Lillian S. Cushman - - -                                                  | 680  |
| Elementary Cooking in, Althea Harmer - - -                                                            | 706  |
| Elementary History Teaching in, Laura L. Runyon - - -                                                 | 694  |
| Elementary Music Teaching in, May Root Kern - - -                                                     | 686  |
| Elementary Science Teaching in, Katherine B. Camp - - -                                               | 661  |
| Primitive History in Primary Groups, Katharine B. Camp - - -                                          | 668  |
| Primitive Textile Work in, Althea Harmer - - -                                                        | 706  |
| Libraries and Books, Use of, Irene Warren - - -                                                       | 620  |
| Literature in the Elementary School, J. Rose Colby I, 473; II, 646; III, 718                          |      |
| Literature in the Elementary School, Porter Landor MacClintock, I, 87; II, 146; III, 205              |      |
| Literature, Fairy Tales as, in the School, Porter Landor MacClintock -                                | 609  |
| Manual Training, Elizabeth E. Langley and Annette Butler - - -                                        | 377  |
| Manual Training, Syllabi of Courses, Summer Quarter, 1903 - - -                                       | 592  |
| March, Eleanor Smith - - -                                                                            | 364  |
| Material, Selection of, Samuel T. Dutton - - -                                                        | 346  |
| Mathematics in the Professional School, George W. Myers, I, 121; II, 178                              |      |
| Mathematics, Syllabi of Courses, Summer Quarter, 1902 - - -                                           | 30   |
| Mathematics, Syllabi of Courses, Summer Quarter, 1903 - - -                                           | 577  |
| Measurement, Indirect, in Elementary Mathematical Teaching, George W. Myers - - -                     | 368  |
| Mental Images and Geography, George H. Betts - - -                                                    | 506  |
| Model School, Syllabi of Courses, Summer Quarter, 1902 - - -                                          | 57   |
| Model School, Syllabi of Courses, Summer Quarter, 1903 - - -                                          | 596  |
| Morning Exercises, Martha Fleming - - -                                                               | 296  |
| Music Study, The Folksong in, Eleanor Smith - - -                                                     | 638  |
| Music, Syllabi of Courses, Summer Quarter, 1902 - - -                                                 | 47   |
| Music, Syllabi of Courses, Summer Quarter, 1903 - - -                                                 | 585  |
| Music Teaching, Elementary, in the Laboratory School, May Root Kern                                   | 686  |
| Music, March, Eleanor Smith - - -                                                                     | 364  |
| Natural Science, Wilbur S. Jackman - - -                                                              | 107  |
| Natural Science, Syllabi of Courses, Summer Quarter, 1902 - - -                                       | 9    |
| Natural Science, Syllabi of Courses, Summer Quarter, 1903 - - -                                       | 570  |
| Nature Study for the Grades, Wilbur S. Jackman - - -                                                  | 326  |
| Nature Study, Notes on, Wilbur S. Jackman - - -                                                       | 524  |
| Observation, Psychological, of Children, Willard C. Gore - - -                                        | 307  |
| Occupations, Social, Steps in Evolution of, Katharine Dopp I, 219; II, 318, III, 416; IV, 499; V, 625 |      |
| Organization and Curricula of the College of Education, John Dewey - - -                              | 553  |
| Pedagogy, Applied, Syllabi of Courses, Summer Quarter, 1902 - - -                                     | 1    |
| Pedagogy of Kindergarten, Syllabi of Courses, Summer Quarter, 1902 - - -                              | 5    |
| Physical Training, C. J. Kroh - - -                                                                   | 183  |
| Physical Training, Syllabi of Courses, Summer Quarter, 1902 - - -                                     | 47   |
| Primary School, Relation of Kindergarten to, Emma A. Newman - - -                                     | 434  |
| Psychological Observation of Children, Willard C. Gore - - -                                          | 307  |
| Relation of Kindergarten to Primary School, Emma A. Newman - - -                                      | 434  |
| Rousseau, From, to Froebel, Anna Tolman Smith - - -                                                   | 156  |
| School as Social Center, John Dewey - - -                                                             | 73   |
| Science, Natural, Wilbur S. Jackman - - -                                                             | 107  |
| Science, Natural, Syllabi of Courses, Summer Quarter, 1902 - - -                                      | 9    |
| Science, Natural, Syllabi of Courses, Summer Quarter, 1903 - - -                                      | 570  |
| Science Teaching, in the Laboratory School, Katherine B. Camp - - -                                   | 661  |
| Scientific Study, Function of, in a True Education, Thomas Chrowder Chamberlain - - -                 | 337  |
| Selection of Material, Samuel T. Dutton - - -                                                         | 346  |
| Self-Government, An Experiment in - - -                                                               | 261  |

|                                                                         | PAGE |
|-------------------------------------------------------------------------|------|
| Social Occupations, Steps in the Evolution of, Katharine Dopp           |      |
| I, 219; II, 318; III, 416; IV, 499; V, 625                              |      |
| Speech, Reading, Dramatic Art, Syllabi of Courses, Summer Quarter, 1902 | 32   |
| Speech, Reading, Dramatic Art, Syllabi of Courses Summer Quarter, 1903  | 580  |
| Syllabi of Courses in School of Education, Summer Quarter, 1902         | 1    |
| Syllabi of Courses in College of Education, Summer Quarter, 1903        | 563  |
| Teachers, Academic and Professional, Training of, Willard C. Gore,      |      |
| I, 517; II, 632                                                         |      |
| Teacher's Ideal, Enrichment of, Anna Tolman Smith                       | 513  |
| Textile Work, Primitive, in the Laboratory School, Althea Harmer        | 710  |
| Textiles, Syllabi of Courses, Summer Quarter, 1902                      | 43   |
| Verb, The, Clinton S. Osborn                                            | 530  |
| Woodwork, Syllabi of Courses, Summer Quarter, 1902                      | 45   |

AUTHORS.

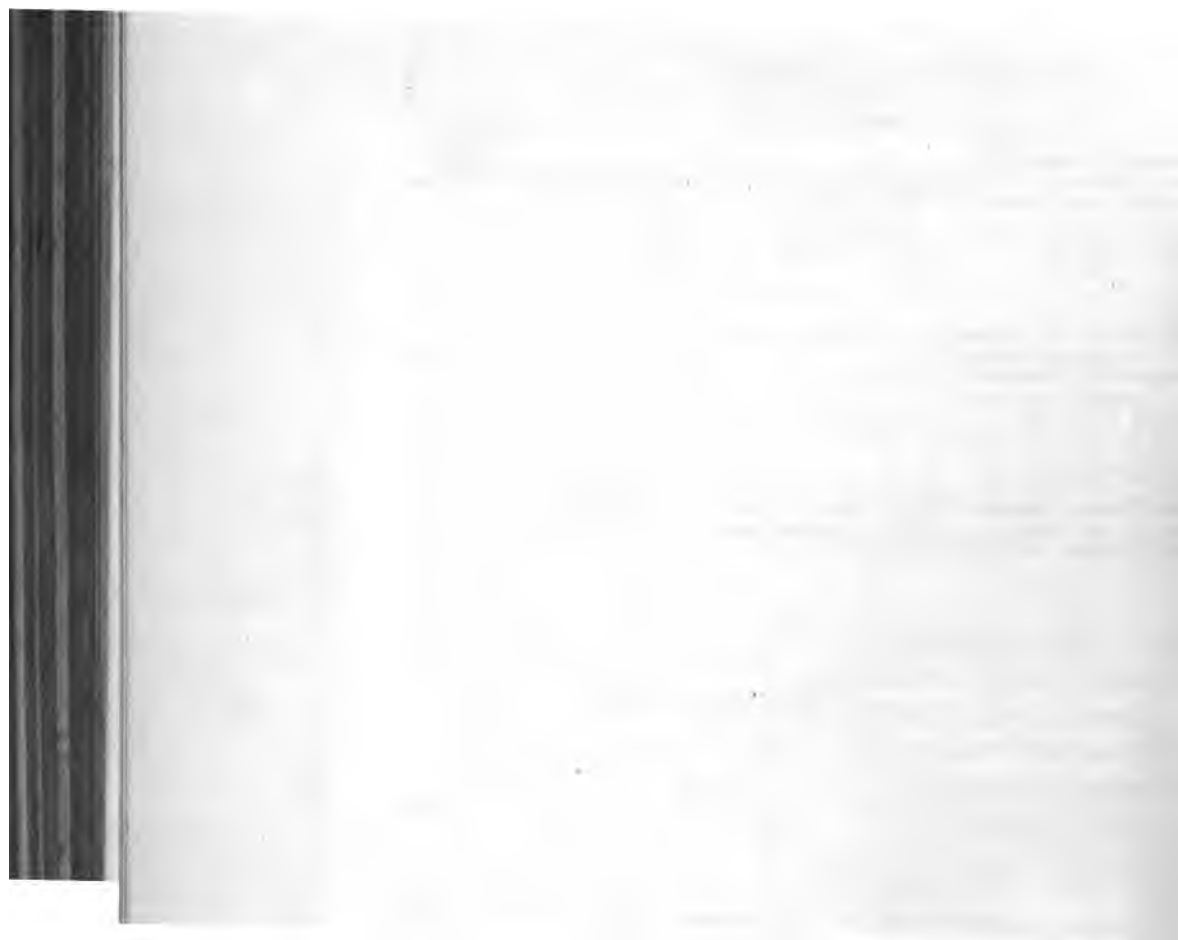
|                                                                           |                           |
|---------------------------------------------------------------------------|---------------------------|
| ALLEN, ANNE ELIZABETH, Kindergarten Outline for October, November,        |                           |
| December                                                                  | 235                       |
| Kindergarten Plan for Spring Quarter                                      | 444                       |
| Kindergarten Programs                                                     | 380                       |
| Model School, Kindergarten Syllabus                                       | 596                       |
| ASHLEMAN, LORLEY A., French                                               | 194, 264                  |
| French, Syllabi of Courses                                                | 54                        |
| Model School, French Games, Syllabus                                      | 65                        |
| BABER, ZONIA, Editorial                                                   | 271                       |
| Geography                                                                 | I, 110; II, 228           |
| Geography, Syllabi of Courses                                             | I, 110; II, 228           |
| BAILEY, THOMAS P., JR., Character Study and Education                     | 355                       |
| BETTS, GEORGE H., Geography and Mental Imagery                            | 506                       |
| BUCK, GERTRUDE, Foundations of English Grammar Teaching                   | 480                       |
| CAMP, KATHERINE B., Elementary Science Teaching in the Laboratory School  | 661                       |
| Primitive History in Primary Groups in the Laboratory School              | 668                       |
| CHAMBERLAIN, THOMAS CHROWDER, Function of Science Study in True Education | 337                       |
| COLBY, J. ROSE, Literature in the Elementary School,                      | I, 473; II, 646; III, 718 |
| COOK, FLORA J., Applied Psychology, Syllabus of Courses                   | 1                         |
| Model School, Gardening, Syllabus                                         | 59                        |
| COULTER, JOHN M., Botany in Elementary Schools                            | 409                       |
| COVINGTON, ANNETTE, Modeling, Syllabus of Courses                         | 585                       |
| CRAWFORD, CAROLINE, Child Hygiene, Syllabus                               | 593                       |
| CUSHMAN, LILLIAN S., Art, Syllabus of Courses                             | 585                       |
| Elementary Art Teaching in the Laboratory School                          | 680                       |
| DERATT, VIOLA, History, Syllabi of Courses                                | 22, 585                   |
| Outline of Year's Work in History, Fourth Grade                           | 352                       |
| DEWEY, ALICE C., Place of the Kindergarten                                | 273                       |
| DEWEY, JOHN, Editorial                                                    | 200                       |
| Education, Syllabus of Courses                                            | 563                       |
| The School as a Social Center                                             | 73                        |
| DOPP, KATHARINE E., Some Steps in the Evolution of Social Occupations,    |                           |
| I, 219; II, 318; III, 416; IV, 499; V, 625                                |                           |
| DUNCAN, JOHN, Art, Syllabus of Courses                                    | 37, 585                   |
| Outline Drawing For Little Children                                       | 48                        |
| DUTTON, SAMUEL T., Selection of Material                                  | 346                       |
| FELMLEY, DAVID, Horticulture in the School                                | I, 96; II, 214            |
| FLEMING, MARTHA, Expression                                               | 543                       |
| Morning Exercises                                                         | 296                       |
| Speech, Oral Reading, Dramatic Art, Syllabus                              | 32, 580                   |

|                                                                        | PAGE                     |
|------------------------------------------------------------------------|--------------------------|
| GILBERT, C. B., How and Why Do We Learn? - - I, 141; II, 289; III, 425 |                          |
| GORE, WILLARD C., Academic and Professional Training of Teachers,      |                          |
| I, 517; II, 632                                                        |                          |
| Education, Syllabus - - - - -                                          | 563                      |
| Notes on the Psychological Observation of Children - - -               | 307                      |
| GRENFELL, HELEN L., True Place of English in the Public-School Work -  | 171                      |
| HALL, JENNIE, Model School, Eighth Grade, Syllabus - - -               | 69                       |
| Fifth Grade, Syllabus - - - - -                                        | 599                      |
| Seventh Grade, Syllabus - - - - -                                      | 602                      |
| HARMER, ALTHEA, Elementary Cooking in the Laboratory School - -        | 706                      |
| Primitive Textile Work in the Laboratory School - - -                  | 710                      |
| HEFFRON, IDA CASSA, Chalk-Modeling, Syllabus - - - - -                 | 40                       |
| HOLLISTER, ANTOINETTE B., Art, Syllabus - - - - -                      | 38, 39                   |
| HOWELL, MARY, Model School, Kindergarten Syllabus - - -                | 57                       |
| JACKMAN, WILBUR S., Editorial - - - - -                                | 332                      |
| Natural Science - - - - -                                              | 107                      |
| Nature Study for the Grades - - - - -                                  | 326                      |
| Nature Study, Syllabus - - - - -                                       | 9, 570                   |
| Notes on Nature Study - - - - -                                        | 524                      |
| KERN, MAY ROOT, Elementary Music Teaching in the Laboratory School -   | 686                      |
| KROH, C. J., Physical Training - - - - -                               | 183                      |
| Physical Training, Syllabus - - - - -                                  | 47                       |
| LANCLEY, ELIZABETH E., Manual Training - - - - -                       | 377                      |
| Manual Training, Syllabus - - - - -                                    | 45, 592                  |
| LEWIS, E. H. English in Elementary Schools - - - - -                   | I, 103; II, 160          |
| MACCLINTOCK, PORTER LANDOR, Fairy Tales as Literature in the School -  | 609                      |
| Literature in the Elementary School - - - - -                          | I, 87; II, 146; III, 205 |
| MANNY, FRANK A., The Grammar School - - - - -                          | 165                      |
| MEYERS, IRA B., Elementary Field Work, Syllabus - - - - -              | 11, 14                   |
| MITCHELL, CLARA ISABEL, Second-Grade Outlines - - - - -                | 243, 386                 |
| Textiles, Syllabus - - - - -                                           | 43                       |
| MYERS, GEORGE W., Editorial - - - - -                                  | 469                      |
| Elementary Mathematics Teaching - - - - -                              | 368                      |
| Mathematics in the Professional School - - - - -                       | I, 121; II, 178          |
| Syllabus - - - - -                                                     | 577                      |
| NEWMAN, EMMA A., Editorial - - - - -                                   | 657                      |
| NORTON, ALICE P., Home Economics - - - - -                             | 128                      |
| Relation of Kindergarten to Primary School - - - - -                   | 434                      |
| OSBORN, CLINTON S., The Verb: A Question of Logic and Psychology -     | 530                      |
| PAYNE, BERTHA, Education, Syllabus - - - - -                           | 564                      |
| First-Grade Outlines - - - - -                                         | 240, 446                 |
| Outline of Course for Kindergartners - - - - -                         | 132                      |
| Pedagogy of Kindergartners - - - - -                                   | 5                        |
| Training of Kindergartners - - - - -                                   | 603                      |
| PHILLIPS, ROSE, Seventh-Grade Outlines - - - - -                       | 451                      |
| REED, MARY, Sixth-Grade Outlines - - - - -                             | 251, 454                 |
| RICE, EMILY J., Editorial - - - - -                                    | 405                      |
| History in the Elementary School - - - - -                             | 117                      |
| History, Syllabus - - - - -                                            | 16                       |
| RUNYON, LAURA L., History Teaching in the Laboratory School - -        | 694                      |
| SLAUGHT, HERBERT ELLSWORTH, Mathematics, Syllabus - - -                | 31                       |
| SMITH, ANNA TOLMAN, Enrichment of the Teacher's Ideal - - -            | 513                      |
| From Rousseau to Froebel - - - - -                                     | 156                      |
| SMITH, ELEANOR, Folksong in Music Study - - - - -                      | 638                      |
| March - - - - -                                                        | 364                      |
| Music, Syllabus - - - - -                                              | 47, 585, 600             |
| STILLWELL, KATHERINE M., Applied Psychology, Syllabus - - -            | 1                        |
| Eighth-Grade Outlines - - - - -                                        | 256, 462                 |
| Model School, Eighth Grade, Syllabus - - - - -                         | 69                       |

|                                                                     | PAGE             |
|---------------------------------------------------------------------|------------------|
| STONE, CLIFF W., Arithmetic Considered as a Utilitarian Study - - - | 533              |
| THORNE-THOMSEN, GUDRUN, Model School, Education, Syllabus - - -     | 568              |
| Model School, First Grade, Syllabus - - - - -                       | 597              |
| Third-Grade Outlines - - - - -                                      | 245, 448         |
| VAN HOESEN, GERTRUDE, Applied Psychology, Syllabus - - - - -        | I                |
| Arithmetic, Syllabus - - - - -                                      | 30               |
| Fifth-Grade Outlines - - - - -                                      | 249, 453         |
| Model School, Fourth Grade, Syllabus - - - - -                      | 63               |
| WARREN, IRENE, Use of Books and Libraries - - - - -                 | 620              |
| WYGANT, ELSIE AMY, First Grade, Syllabus - - - - -                  | 60, 64, 597, 600 |
| Seventh-Grade Outlines - - - - -                                    | 252, 456         |
| YOUNG, ELLA F., Editorial - - - - -                                 | 139              |
| ZABRISKIE, MISS, Household Economics, Syllabus - - - - -            | 595              |

BOOK REVIEWS.

|                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------|-----|
| American Political History to Death of Lincoln, Viola A. Conklin, <i>Ida M. Pahlman</i> - - - - -           | 270 |
| Education and Industry in the United States, H. Thielton Mark, <i>Florence Holbrook</i> - - - - -           | 403 |
| English Grammar, A Text-Book of Applied, Edwin Herbert Lewis, <i>Albert H. Tolman</i> - - - - -             | 467 |
| Eskimo Stories, Mary E. Smith, <i>Bertha Payne</i> - - - - -                                                | 331 |
| History of Education, E. L. Kemp, <i>Nathaniel Butler</i> - - - - -                                         | 135 |
| Individuality and the Moral Aim in American Education, H. Thielton Mark, <i>Florence Holbrook</i> - - - - - | 402 |
| Industries in Elementary Education, The Place of, Katharine Elizabeth Dopp, <i>John Dewey</i> - - - - -     | 727 |
| Just So Stories for Little Children, Rudyard Kipling, <i>Bertha Payne</i> - - -                             | 330 |
| Latin Grammar for Schools, A, Andrew Fleming West, <i>Gertrude Parker Dingee</i> - - - - -                  | 137 |
| Moral Education in American Schools, H. Thielton Mark, <i>Florence Holbrook</i>                             | 402 |
| Norse Stories, Hamilton Wright Mabie, <i>Gudrun Thorne-Thomsen</i> - - -                                    | 330 |
| The Western Slope, Celia Parker Woolley, <i>Laura T. Brayton</i> - - -                                      | 550 |
| Viking Stories, Jennie Hall, <i>Gudrun Thorne-Thomsen</i> - - -                                             | 330 |



# The Best TONIC

When you are all tired out, feel weak, sleep does not rest and the digestion and appetite are poor, there is no remedy so effective as **Horsford's Acid Phosphate**. It is a nerve food and a tonic that nourishes and strengthens the entire system. Insist on having

## **Horsford's Acid Phosphate**

If your druggist can't supply you we will send small bottle, prepaid, on receipt of 25 cents.

Rumford Chemical Works, Providence, R. I.



**Certificate  
OF AN  
Eminent  
CHEMIST.**

**I HAVE MADE A CAREFUL  
CHEMICAL ANALYSIS OF**

# *Sozodont*

*for the Teeth,*  
**AND FIND NOTHING INJURIOUS  
OR OBJECTIONABLE IN ITS COMPO-  
SITION.**

*Julius J. Pohl, M.D.  
Analytical Chemist.*

**FOR TWO SCORE YEARS AND TEN**

Genteel Americans have cared for  
their teeth with no fear of Acid,  
Grit or other injurious substances

BY THE USE OF

# SOZODONT

# MENNEN'S



**DELIGHTFUL AFTER BATHING, A LUXURY AFTER SHAVING.**  
**Beautifies and Preserves the Complexion.**

A positive relief for PRICKLY HEAT, CHAPIN and SUNBURN, and all afflictions of the skin. For sore, blistered and perspiring feet it has no equal. Removes all odor of perspiration. Use MENNEN'S (the original), a little higher in price, perhaps, than worthless substitutes, but there is a reason for it. Sold everywhere, or mailed for 25 cents. AVOID HARMFUL IMITATIONS. (Sample free).  
GERHARD MENNEN CO., Newark, N. J.

Something New **Mennen's Violet Talcum** Something Exquisite

# Germ's

develop rapidly in hot weather. To prevent sickness cesspools, closets, cellars, sinks, and all waste-carrying arrangements should be frequently disinfected with

# Platt's Chlorides

**The Odorless Disinfectant**

A colorless liquid; powerful, safe, and economical. Sold in quart bottles only, by druggists, high-class grocers and house-furnishing dealers. Manufactured by Henry B. Platt, New York.



# The REGINA.

## "QUEEN OF MUSIC MAKERS."

If you could see children happy in the companionship of a **Regina**—you would realize what one would mean to your family.

**The Regina** is for everyone in the house and its message is one broad burst of sunshine. For country homes it is ideal. As a rainy day companion, for the fête and for the outdoor evening musicale it brings the best of beautiful music to you and to your guests.

**The Regina** received the Gold Medal, highest award at the Pan-American. It is fully guaranteed and is for sale by leading dealers everywhere. Any **Regina** will be sent on approval to responsible parties, and where we have no dealers and sell direct we pay freight.

Prices \$25.00 to \$400.00.

Catalogue, music lists, and the delightful love story, "A HARMONY IN TWO FLATS," sent free on receipt of postage.

### Regina Music Box Co.

12 East 22d St., New York or  
255 Wabash Ave., Chicago



## ORCHESTRA

Instruments, Violins, Flutes, Mandolins, Guitars, Banjos, Ac. Lyon & Healy and "Washburn" instruments are in use everywhere and are sold by leading music dealers. Ask for "Dept. G" Catalog. Illustrated, mailed free. It's a money-saver.

LYON & HEALY, 38 Adams St., Chicago, Ill.

The World's Largest Music House. Sells "Everything Known in Music."

## PIANO Do You Want a Genuine Bargain in a Piano?

We have hundreds of Upright Pianos returned from renting which must be disposed of at once. These pianos include Steinways, Knabes, Fischers, Sterlings and other well known makes. Many cannot be distinguished from new, yet all are offered at a great discount. Uprights as low as \$100. Also beautiful new Uprights at \$125, \$135, \$150 and \$165. A magnificent inequality equal to many \$400 pianos. Easy monthly payments accepted. Freight is only about \$5. Write at once for complete list and full particulars. You can make a great saving by securing your piano from us. Every piano warranted as represented. "A Piano Book," free. Write today.

## LYON & HEALY

38 Adams St., CHICAGO.

World's largest music house; sell "Everything known in Music."



## Rare Old Violins

Largest and finest collection on this continent. Fine catalogue (free) containing 50 fac-simile labels in colors and Biographies of all the noted makers. List and particulars of Solo instruments from \$50 to \$10,000. Monthly payments may be arranged. Violins sent on seven days examination. Formal Certificate of Genuineness with each instrument.

LYON & HEALY, 38 Adams St. Chicago.

## THE FOUR-TRACK NEWS

AN ILLUSTRATED MAGAZINE  
OF TRAVEL AND EDUCATION

One hundred twenty or more pages, every one of which is of human interest, and every article is illustrated. There is no better magazine of travel for teachers and pupils than *The Four Track News*. Published monthly by George H. Daniels. Fifty cents a year, single copies five cents. Sold by news dealers everywhere, or address the publisher, No. 7 East Forty-second Street, New York.

*Kiely's* COCOA AND CHOCOLATE

As skillfully prepared, pure and delicious as

*Kiely's* CANDY

THE SAME MAKERS  
THE SAME EXCELLENCE



# Dr. Deimel

(LINEN-MESH)

## Underwear

How can you expect to be comfortable during warm weather if you smother your skin with woolen underclothing? The Dr. Deimel Linen Underwear is comfortable because it is ventilating. It gives the skin a chance to breathe.

*Booklet telling all about it, and samples of Linen-Mesh, mailed free, on request.*

**The Deimel Linen Mesh Co.**  
(Originators of Linen-Mesh)

Dept. O. 57-481 Broadway, New York

|                     |                          |
|---------------------|--------------------------|
| SAN FRANCISCO, CAL. | 111 Montgomery St.       |
| WASHINGTON, D. C.   | 1313 F. Street           |
| BROOKLYN, N. Y.     | 510 Fulton St.           |
| MONTREAL, CAN.      | 2202 St. Catherine St.   |
| LONDON, W. C., ENG. | 83 Strand (Cecil Hotel). |

RIDE A COCKHORSE TO BANBURY CROSS,  
TO SEE A FINE LADY UPON A WHITE HORSE,  
RINGS ON HER FINGERS, AND BELLS ON HER TOES,  
SHE SHALL HAVE MUSIC WHEREVER SHE GOES."



SO SINGS THE FOND MOTHER IN NURSERY RHYME  
TO HER GLAD INFANT, THE WHILE KEEPING TIME,  
AND SO CAN ALL MOTHERS WITH TUNEFUL REFRAIN  
DELIGHT IN THEIR INFANTS, WHOSE HEALTH THEY MAINTAIN.  
THROUGH  
**MRS. WINSLOW'S SOOTHING SYRUP**  
OVER FIFTY YEARS SOLD  
TO MILLIONS OF MOTHERS IN THE NEW WORLD AND OLD

OCCUPANTS 200 YEARS OLD  
in a 300-Year-Old Building:

**Johann Maria Farina**

Sternengasse 9-11 in Köln.

9-11 (Cologne) 9-11



**9-11** Eau de Cologne is an invigorating, refreshing PERFUME.  
is the GENUINE EAU DE COLOGNE.

INSIST on 9-11 Cologne and TAKE NO OTHER.  
Import office, 1-3 Ann Street, New York.



# \$500.00

## in Cash Prizes

for the Five Best Reasons  
why everyone should use the

**Ostermoor** \$15.  
**Mattress**

Patent  
Elastic  
Felt

(Smaller Sizes—Smaller Prices)  
(For list see last month's advt.)

|                                                         |       |
|---------------------------------------------------------|-------|
| 1 Person sending five best reasons, . . . . .           | \$100 |
| 2 Persons sending five next best, EACH \$50, . . . . .  | 100   |
| 3 Persons sending five next best, EACH \$25, . . . . .  | 75    |
| 5 Persons sending five next best, EACH \$10, . . . . .  | 50    |
| 10 Persons sending five next best, EACH \$5, . . . . .  | 50    |
| 125 Persons sending five next best, EACH \$1, . . . . . | 125   |
| 146 Prizes amounting to . . . . .                       | \$500 |



Trade Mark

### Send for free 96-Page Book

"The Test of Time," which tells about the good points of the OSTERMOOR MATTRESS that we can think of. You don't have to own an OSTERMOOR to enter this competition, but experience regarding its qualities might help you in winning.

**CONDITIONS:** All answers must be mailed not later than midnight July 31st, 1903, and all competitors must answer *all* of the three following questions:

1. Do you own an OSTERMOOR MATTRESS?
2. Have you ever sent for a copy of our free book?
3. Do you wish us to send at once a copy of "The Test of Time" (mailed free)?

#### AWARDING OF PRIZES

will be in charge of Mr. E. A. Ames, of Ostermoor & Co., Mr. C. M. Nast, of *Collier's Weekly*, Mr. George H. Hazen, of the *Century Magazine*, Mr. E. W. Spaulding, of the *Ladies' Home Journal* and Mr. William H. Johns, of George Batten & Co., Advertising Agents, who will judge the answers.

### Thirty Nights' Free Trial

You can have an OSTERMOOR MATTRESS, sleep on it 30 nights, and if it is not better than any other mattress you have ever used, return it at our expense and your money will be immediately refunded without dispute.

OSTERMOOR & CO., 143 Elizabeth Street, New York  
Canadian Agency, The Alaska Feather & Down Co., Ltd., Montreal

# Correspondence —Study—

The University of Chicago  
Through the University Extension

Offers instruction by correspondence in many Academy, College, Graduate, and Divinity departments, including instruction in

PHILOSOPHY HISTORY  
SOCIOLOGY SEMITIC  
LANGUAGES CHURCH HISTORY  
BIBLICAL LITERATURE  
COMPARATIVE RELIGION, ETC.

Degrees are not granted upon work done wholly by correspondence, but credit will be given for courses when completed by examination at the University, and thus the time of residence required for a degree may be shortened.

Work may be commenced at any time

Special circulars will be sent on application to

THE CORRESPONDENCE-STUDY DEPARTMENT  
THE UNIVERSITY OF CHICAGO  
CHICAGO

Special circulars explaining the work of the LECTURE-STUDY DEPARTMENT of the University Extension will be sent on application.

# Preserve Your Magazines

Have them bound in Cloth or Leather. It will improve the appearance of your Library at a small expenditure. The University of Chicago Press has a well-equipped job bindery and will be pleased to quote prices + + + + +

The University of Chicago Press  
Mfg. Dept. Bindery Chicago



Forty years ago the school-teacher had to get along as best he could with foreign-made pencils; now things are changed, and he has the privilege of using

## Dixon's American Graphite Pencils

in all the schools under his charge.

These pencils are not the result of an inspiration, but are the product of much care, thought, and study in order to provide just the right kind of a pencil for the many kinds of educational work.

They are used in all the leading scientific and technical schools in the country, and are recommended by the drawing professors. They have strength and durability of lead, combined with absolute smoothness and accuracy in grading. Send for illustrated color catalogue. It will help you.

**JOSEPH DIXON CRUCIBLE COMPANY**  
JERSEY CITY, N. J.



THE most artistic and durable color effects on shingles are produced with Shingletint, which is a scientific combination of linseed oil, coloring matter, creosote, and the necessary drying agents.

Among the many shingle stains offered Shingletint is conspicuous not only for its superiority, but because it can be called for by its distinctive name, thus offering the consumer protection against inferior goods offered for the same purpose.

When buying Shingle Stains it will be worth your while to ignore the "just as good" argument and insist upon Shingletint.

STAINED WOODS AND DESCRIPTIVE LITERATURE SENT FREE UPON REQUEST.

## BERRY BROTHERS, Limited,

Varnish Manufacturers,

NEW YORK  
BOSTON

PHILADELPHIA  
BALTIMORE

CHICAGO  
CINCINNATI

ST. LOUIS  
SAN FRANCISCO

Factory and Main Office, DETROIT.



"Of all inventions, the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species."  
—MACAULEY



### PERFECTION IN TRANSPORTATION

IS FURNISHED BY THE

#### CHICAGO & ALTON RAILWAY

The heaviest steel rails, laid on a roadbed of crushed rock, make its tracks the smoothest. Over this dustless highway are run the most palatial trains in the world—the acme of luxury and comfort.

AMERICA'S MOST POPULAR RAILWAY—JUSTLY TERMED  
"THE ONLY WAY"

BETWEEN

Chicago, St. Louis, Kansas City and Peoria.

GEO. J. CHARLTON, Gen. Pas. Agt., Chicago, Ill.



All over the civilized world  
THE IMPROVED  
**BOSTON GARTER**  
IS KNOWN AND WORN  
Every Pair Warranted

The Name is stamped on every loop—

The *Velvet Grip*  
CUSHION BUTTON  
**CLASP**

Lies flat to the leg—never Slips, Tears nor Unfastens  
**ALWAYS EASY**

Send 50c. for Silk, 25c. for Cotton, Sample Pair.

GEO. FROST CO., Makers,  
Boston, Mass., U. S. A.

**REFUSE ALL SUBSTITUTES**

# Photographic Perfection

is attained by making  
your negatives on

**AnSCO:** *the new Daylight  
Loading Film*

and your prints on

**Cyko:** *the Paper that Prints  
at Night*

*ANSCO and CYKO have no peers  
in Keeping Quality & in Latitude  
of Exposure and Development*

*CYKO Manual and ANSCO Booklet sent on application*

**The  
Anthony & Scovill  
Co.**

122-124 Fifth Avenue, NEW YORK  
Atlas Block, CHICAGO

## Try Charcoal Tablets

*Not a Drug, but an Antiseptic*

Scientific investigation clearly demonstrates the fact that by far the greater part of the disorders of digestion, are due to the action of germs, which gain access to the alimentary canal and cause the decomposition of food, and produce poisonous substances, which, when absorbed into the blood, give rise to a great variety of distressing symptoms, such as heartburn, water brash, sick-headache, dullness of mind, confusion of thought, blurred vision, specks before the eyes, and even attacks of unconsciousness. Distention of stomach and bowels with gas, heaviness in the region of the stomach, palpitation of the heart, etc., are also caused in this way. The tongue becomes coated, the breath foul, and there is an unpleasant taste in the mouth. For the relief of these disagreeable symptoms the best of all intestinal antiseptics is charcoal, and of the many sources from which it is derived, that prepared from cereals is by far the most satisfactory. When exposed for a long time, charcoal absorbs organic material from the air, and loses its efficiency. We prepare charcoal from cereals. It is compressed into tablet form of convenient size for use, and is carefully packed. It keeps indefinitely. Price 40c a box.

On receipt of coupon, signed, with \$1.00, we will mail you three boxes of our **CHARCOAL TABLETS**.

CUT OUT, MAIL TO

BATTLE CREEK

*Sanitarians*  
CO., LTD.

BATTLE CREEK, MICH.

GENTLEMEN:—Enclosed find one dollar. Please mail me three boxes **CHARCOAL TABLETS**.

Name \_\_\_\_\_

CHARCOAL TABLETS COUPON

Address \_\_\_\_\_

Town \_\_\_\_\_

State \_\_\_\_\_

COUPON 28

## THE UNIVERSITY OF CHICAGO PRESS Contributions to Education

By **JOHN DEWEY**, Professor and Head of Department of Philosophy in the University of Chicago, and **ELLA FLAGG YOUNG**, Professor of Education in the University of Chicago.

The series as a whole aims to effect the union of educational theory and practice in distinction from vague enthusiasm, loose exhortation, and abstract theorizing. It endeavors to bring the discussion of actual school practice to the test of the fundamental principles involved. These principles are derived from modern psychology and social philosophy, and are stated in a simple and non-technical manner. The series will bring its readers into touch with what is vital in contemporary educational philosophy.

- |                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>No. 1. ISOLATION IN THE SCHOOL</b>                                        | <b>By ELLA FLAGG YOUNG</b> |
| 12mo, paper, net, 50 cents                                                   | postpaid, 54 cents         |
| <b>No. 2. PSYCHOLOGY AND SOCIAL PRACTICE</b>                                 | <b>By JOHN DEWEY</b>       |
| 12mo, paper, net, 25 cents                                                   | postpaid, 27 cents         |
| <b>No. 3. THE EDUCATIONAL SITUATION</b>                                      | <b>By JOHN DEWEY</b>       |
| 12mo, paper, net, 50 cents                                                   | postpaid, 53 cents         |
| <b>No. 4. ETHICS IN THE SCHOOL</b>                                           | <b>By ELLA FLAGG YOUNG</b> |
| 12mo, paper, net, 25 cents                                                   | postpaid, 27 cents         |
| <b>No. 5. THE CHILD AND THE CURRICULUM</b>                                   | <b>By JOHN DEWEY</b>       |
| 12mo, paper, net, 25 cents                                                   | postpaid, 28 cents         |
| <b>No. 6. TYPES OF MODERN EDUCATIONAL THEORY</b>                             | <b>By ELLA FLAGG YOUNG</b> |
| 12mo, paper, net, 25 cents                                                   | postpaid, 28 cents         |
| Price for series on one order to same address, net, \$1.50; postpaid, \$1.67 |                            |

For Sale by Dealers  
or

**The University of Chicago Press, Chicago, Illinois**

Mothers and fathers, do you realize that in order to maintain the perfect health of your children, they must receive the proper proportions of heat, bone and muscle-making and nerve and brain-building food?

## SHREDDED WHOLE WHEAT BISCUIT

contains all these food properties in correct proportion. In providing it, you are supplying a food that properly and completely nourishes the whole body and that will make men and women with sound teeth, strong bones, firm flesh, elastic muscles and good nerve and brain power.

*Buy it of your Grocer.* Send for "The Vital Question" (Cook Book illustrated in colors), **FREE.** Address

**THE NATURAL FOOD COMPANY, Niagara Falls, N. Y.**



## OUTING SPOTS IN THE NORTHWEST

There are many places in the country of the Northern Pacific, some inexpensive, others better and more expensive, where one can spend the summer days pleasantly and healthfully. Among these are Walker, in the Leech Lake country, and Detroit and Battle Lake in the Lake Park region in Minnesota; Eaton's ranch, near Medora, N. D.; Hunter's Hot Springs in the Yellowstone valley, and Missoula and the Bitter-Root valley, in Montana; Lakes Pend d'Oreille and Cour d'Alene, Idaho; North Yakima in eastern Washington, and Green River Hot Springs in the Cascades; Tacoma, Seattle, Port Townsend, Port Angeles, and Victoria on Puget Sound, and many places along the Columbia river and on the Pacific Ocean from Portland as a center.

Those east of the Mississippi who wish a decided change should go to the Rockies or the Puget Sound and Columbia river and seacoast country. We can only hint at these things here, but write us, giving particulars as near as you can, and we will try to give you the needed information to enable you to find what you want. And don't forget that Yellowstone Park is the chief of all tourist shrines.

Send to F. H. FODARTY, General Agent, 208 Clark St., Chicago, or CHAS. S. FEE, General Passenger Agent, St. Paul, Minn., for "WONDERLAND 1903." You need it in your business.

The universal Perfume  
for the Handkerchief  
Toilet and Bath.



Be sure  
you get the  
genuine.

**MURRAY & LANMAN'S**  
**FLORIDA WATER.**  
Refuse all substitutes.

## Skin Diseases

If you suffer from Eczema,  
Salt Rheum, Ringworm, Itch,  
Ivy Poison, Acne, or other  
skin troubles,

## Hydrozone

will cure you.

Cures sunburn in 24 hours. In cases  
of Prickly Heat and Hives it will stop  
itching at once, also will relieve mos-  
quito bites.

*Hydrozone is a scientific Germicide.  
Used and endorsed by leading physi-  
cians. It is absolutely harmless,  
yet most powerful healing agent.*

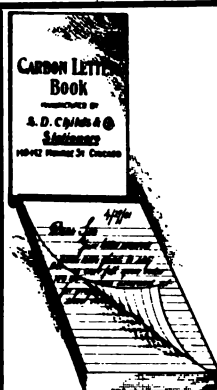
As these diseases are caused by parasites,  
killing them without causing injury to the suf-  
ferer, naturally cures the trouble.

**Sold by leading druggists.**

**FREE** to any one sending me 10c. to cover actual  
postage, will send a bottle containing suffi-  
cient to prove to your entire satisfaction the claims here  
made. Pamphlet sent free. Address

*Prof. Charles Harchant*

59 W. Prince St., New York.



## Copy Your Letter While You Write

BY USING THE

## CARBON LETTER TAB

*Letter Copying Made Cheaper, Cleaner, and More Convenient*

100 Letters and 100 Copies in Each Book. Bound in Board  
Covers with Carbon, Ready for Use

**Letter Size** (8½ x 11), Ruled or Plain . . . . . **\$0.75**  
**Note Size** (6 x 9½), Ruled or Plain . . . . . **.50**

*Sent postpaid on receipt of price*

**S. D. CHILDS & CO.**

Manufacturing Stationers

Send for our Catalogue of Office Supplies

140-142 MONROE ST., Chicago

**IT DOES GOOD WORK**  
**IT DOES MORE WORK**



*The Densmore  
Does More*

Densmore Typewriter Company  
309 Broadway New York

## A QUAKER CITY LANDMARK

More than 150 Smith Premier Typewriters are used by the City Departments having Offices in this Building.

Philadelphia City Hall  
550 feet in height



ILLUSTRATED  
CATALOGUE  
FREE.

SYRACUSE  
N.Y.  
U.S.A.

THE SMITH PREMIER TYPEWRITER CO.

**Jaeger**  
UNDERWEAR  
PURE WOOL

Protects  
Against  
Temperature Changes.

The Standard Sanitary  
Underwear for Men, Women  
and Children.

ALL WEIGHTS FOR ALL WANTS

Endorsed by Leading Physicians.

Also various JAEGER Novelties and  
Specialties.

ILLUSTRATED CATALOGUE FREE.

DR. JAEGER S. W. S. CO.'S OWN STORES.

NEW YORK: 306 Fifth Ave., 157 Broadway.

BROOKLYN: 504 Fulton Street.

BOSTON: 230-232 Boylston Street.

PHILADELPHIA: 1510 Chestnut Street.

CHICAGO: 82 State Street.

AGENTS IN ALL PRINCIPAL CITIES.

## SEW THIS



DEVELOPED  
PAT. DEC. 3, 1896.  
IN YOUR  
COAT  
SLEEVE

Put an ordinary collar button in the rear or center button hole of the cuff, slide it into the front circular opening, — push it back to regulate the Cuff—an inch or two or simply a white edge can be shown.

THE CUFF WILL STAY  
WHERE YOU PUT IT.

You take your coat off and hang it up, the Cuffs will require no attention until they need laundering. One pair for every coat you own and happiness will be yours for a dime. Price 10cts. a pair or 50cts. for 6 pairs, by mail, postpaid. Address,

WOODMAN CO., Box 2872, Boston, Mass.



Put your

Links  
into your  
Cuffs

with the

**EARL BUTTONER**

A practical device which saves time and temper. Used and endorsed by thousands. Nickel, 10 cents; Sterling Silver, 50 cents. Sent on receipt of price.

ALPHA MFG. CO., 151 Milk Street, BOSTON, MASS.



Daus' "Tip-Top"  
Duplicator

What is "TIP-TOP"?  
Daus' **TIP-TOP?**

**TO PROVE**

that Daus' "Tip-Top" Duplicator is the best, simplest, and cheapest device for making

100 copies from Pen-written and  
50 copies from Typewritten original

we are willing to send a complete "Duplicator" without deposit on 10 days' trial.

No mechanism to get out of order, no washing, no press, no printer's ink. The product of 23 years' experience in Duplicators. Price for complete apparatus, size No. 1, \$7.50, subject to the trade discount of 33 1/3 per cent., or **\$5.00 net.**

FELIX C. DAUS DUPLICATOR CO., Daus Bldg., 111 John St., New York

**4 Trains a Day**

via the

**MONON ROUTE**

(CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY)

and C. H. & D. Ry.

**Only 8 Hours**

from

**CHICAGO**

to

**CINCINNATI**

**BY DAY, Parlor and Dining Cars.**

**BY NIGHT, Palace Sleeping and Compartment Cars**

CHAS. H. ROCKWELL,  
Traffic Manager,  
200 Custom House Place,

FRANK J. REED,  
Gen. Pass. Agt.  
CHICAGO.

THE BEST  
SEND FOR CATALOGUE

FIFTY  
STYLES

TRADE MARK  
REGISTERED

PAUL E. WIRT  
FOUNTAIN PEN

ALL  
DEALERS  
OR ADDRESS, BLOOMSBURG, PA.

**W**HY not use a clean Fountain Pen, one that will write and write always, without skipping, blotting, or scratching?

The above Fountain Pen is and has been sold on its merits all over the world for sixteen years, and is unconditionally guaranteed.

## The "HAMMOND" Typewriter

(NEW MANIFOLDER)

"The Greatest Typewriter of the Two Hemispheres."

Judge a machine by its work.  
Hammond work is incomparable.

The Hammond Typewriter was originally intended for high-class trade—people who wished the best. The excellent work, interchangeable type, visible writing, and ease of operation, place the Hammond in a class all by itself.

Durability proven.  
A matter of fact.



Branch offices in all principal cities. Representatives everywhere.

**THE HAMMOND TYPEWRITER COMPANY**

FACTORY AND GENERAL OFFICES:

69th to 70th Sts., East River, New York, N. Y., U. S. A.



"THE NAME IS EVERYTHING."

# Esterbrook

on a pen is an absolute  
guarantee of its excellence

Jackson No. 442.  
A stub pen. Increasingly  
popular. 442 Try it.  
Over 150 varieties of  
other styles to suit  
every purpose. All  
stationers have them.  
Accept no substitute.

THE ESTERBROOK STEEL PEN CO.  
Works, Camden, N. J. 26 John Street, N. Y.

## The Test



### of Service

always proves the absolute  
supremacy of the

## Remington Typewriter

REMINGTON TYPEWRITER COMPANY  
327 Broadway, New York

## The SUN Typewriter No. 2



Type Bar Machine

Visible Writing

Highest Speed

Manifolding

Most Perfect Work of All  
The Only High Grade Writing Ma-  
chine Sold at a Reasonable Price

A Revelation

Price only \$40.00 to introduce it

INVESTIGATE

Sun Typewriter Co.  
239 Broadway, New York



Generalities are not Convincing !

THE ABSOLUTE WORTH OF THE

## FOX TYPEWRITER

IS WHAT MAKES IT PRE-EMINENT.

Compare the touch of "THE FOX" with other machines.

Compare the adjustable typebar hanger, insuring perfect alignment always, with others.

Compare the automatic ribbon movement, the speed escapement, the ball bearing carriage, the key dip, the line lock.

Comparison beside any other Typewriter will show why so many large users are displacing all other typewriters with "The Fox;" the reason is evident, the Fox is a superior machine. We want you to examine the Fox. Our free trial plan enables any responsible firm or person to try it for ten days. Let us send a machine to you for comparison and trial. Catalogue on request.

FOX TYPEWRITER CO., Ltd.  
560-570 FRONT ST. GRAND RAPIDS, MICH.



# The Summer Quarter of The University of Chicago

---

*Affords special opportunity for  
study in all Schools and Colleges*

---

THE FIRST TERM, JUNE 17TH TO JULY 24TH  
THE SECOND TERM, JULY 25TH TO SEPTEMBER 3D

---

*Instruction will be given in 1903 in*

The Colleges of Arts, of Literature, of Science, of  
Commerce and Administration

The Graduate School of Arts and Literature

The Ogden Graduate School of Science

The Law School

The School of Medicine

The Divinity School

The School of Education

---

A circular of information will be sent on application to

THE UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

Established 1857

Incorporated 1889



## The Pennoyer

(Between Chicago and Milwaukee on  
C. & N. W. Ry.)

**KENOSHA, WISCONSIN.**

### A Health-Resort; A Rest-Cure

of the highest grade, conducted upon a most liberal scale, and affording every facility for the successful treatment of chronic diseases. Beautiful grounds (100 acres) with half mile Lake Michigan frontage. Cool summers; no malaria.

For illustrated prospectus address

**N. A. PENNOYER, M.D., Mgr.**

**Chicago Office, 70 State St.**

Dr. Pennoyer's hours 2 to 4 Tuesdays.

TELEPHONE CENTRAL 500



**All history is recorded  
but history does not record  
better ink than CARTER'S**

*Compartment Sleepers  
Standard Open Sleepers  
Palace Parlor Cars  
Table d'hote Diners  
Luxurious Day Coaches*

Are some of the many features  
of a trip over the

## BIG FOUR ROUTE

**CHICAGO TO  
INDIANAPOLIS  
CINCINNATI  
LOUISVILLE  
AND SOUTH**

Ask for Tickets via the "Big Four."

**J. C. TUCKER, G. N. A.,**  
238 Clark St., Chicago.

## Pen Extravaganza

SOME writers dip; that's wasteful in a dozen ways, and so clumsy! Others who use Fountain Pens don't yet know that ink joints under the finger-grasp and other "good old" features are costly enough. Contrast the comfort and neatness insured to users of the Middle Joint "Modern" Fountain Pens made and guaranteed by A. A. Waterman & Co. Look for the "A. A." and the word "Modern" and you'll find the way to true Pen Economy.

The most exacting pen user can be suited

**A. A. Waterman & Co.**

22 THAMES ST. NEW YORK  
DEPT. G.

# Pabst

## Extract

The "Best" Tonic

**D**ON'T wait for signs of a breakdown before you start to build up. The human engine requires the right kind of fuel to keep it running at its fullest capacity—it demands a blood-builder, a nerve-quieter, a force-giver.

You can forestall the wear and tear on your system, protect yourself against the inroads of sickness, and insure sound, refreshing sleep, by taking, morning, noon and night, a small glass of *Pabst Malt Extract, The Best Tonic*.

It will aid your digestion, help your stomach get all the nutriment from the food you eat, enrich your blood, steady your nerves, quiet your heart action, put an edge on your appetite, and, in doing this, give you renewed health and vitality.

"I have prescribed your preparation for the past two years, and can honestly say that your 'Best' Tonic is one of the *best* reproductive and strength-giving tonics at our command in all forms of debility and poor digestion. I take great pleasure in recommending it to the profession where a *first-class* tonic is needed."—J. R. Smith, M. D., Warsaw, Mo.

SEND YOUR ADDRESS FOR BOOKLET

**Pabst Extract Department**  
Milwaukee, Wis., U. S. A.



# Bausch & Lomb

Photographic

## LENSES AND SHUTTERS

Sold 'Round the World

are made by the oldest and best equipped lens making establishment in America

**Bausch & Lomb-Zeiss Anastigmats and Plastigmats with Volute Shutters**

### Are Regularly Furnished on All High Grade Cameras

When buying your camera this year see that it is equipped with one of our superb lenses, making it possible to do every kind of photography, and the best photography with one outfit. If your camera has a BAUSCH & LOMB lens or shutter you can compete for the

**\$3,000.00 for Photographs**

which is offered absolutely without reserve to users of our lenses and shutters. *Send for Booklet.* Catalog of Prism Field Glasses, Microscopes, Projection Lanterns on request.

**Bausch & Lomb Optical Co., Rochester, N. Y.**

NEW YORK  
25th St. and Broadway

BOSTON  
120 Boylston St.

CHICAGO  
Wabash and Monroe Sts.

## Your Vacation in Colorado

### TOURIST TICKETS FOR HALF FARE

A Colorado trip this year will cost very little. We are going to sell round trip tickets from Chicago for \$30. From St. Louis \$25. Practically half fare. This will enable people of moderate means to spend their holiday in the delightful Colorado country. Special tickets will be sold July 1 to 10 for even less than named above.

**Burlington  
Route**

**T**HERE is a popular idea that prices in Colorado are inflated — that it costs money "every time you move."

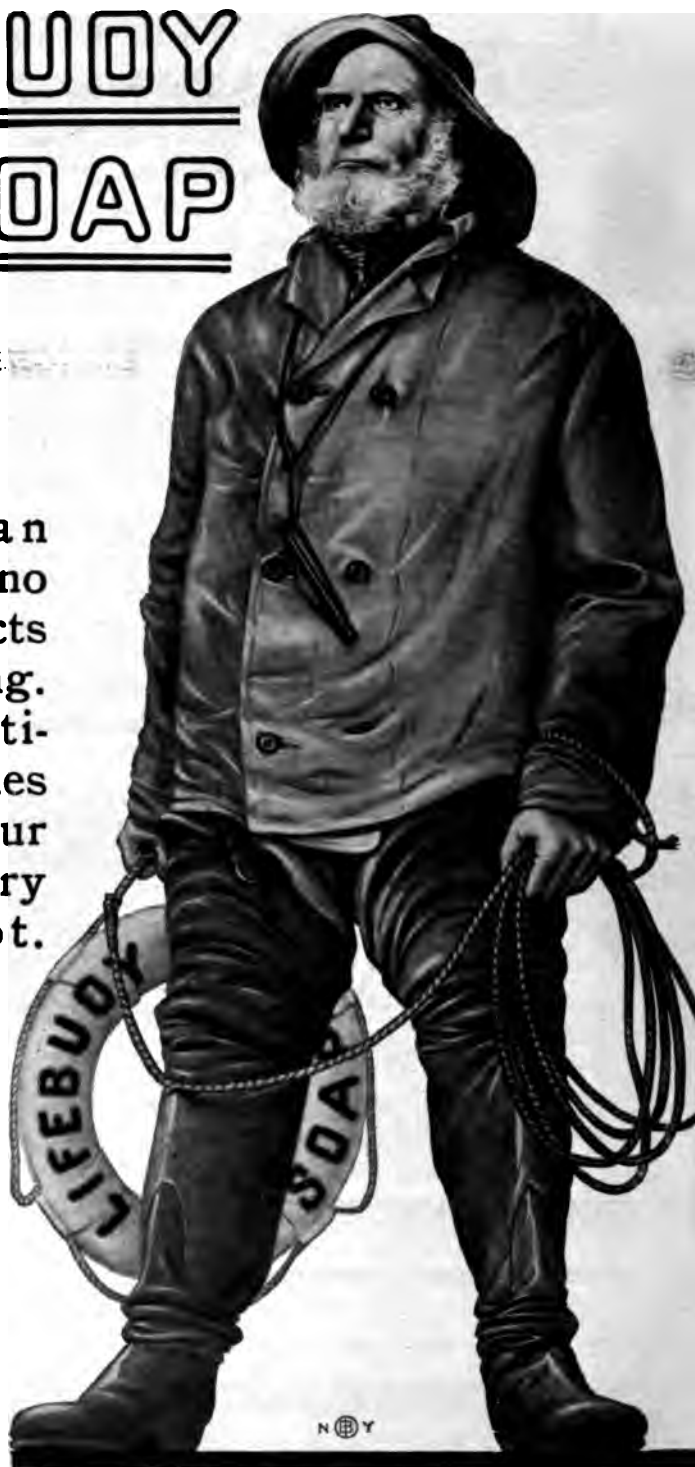
This notion is not correct. You can live in Colorado comfortably and well for a moderate sum. At the hotels, boarding houses and ranches you can secure excellent quarters and capital fare for from \$8 to \$10 a week and upward.

Our Hand-Book of Colorado tells all about it. Send for a copy. It's free.

P. S. EUSTIS,  
Passenger Traffic Manager,  
C. B. & Q. Ry. Co.,  
209 Adams St., Chicago, Ill.

# LIFEBUOY SOAP

Is more than  
soap yet costs no  
more; it disinfects  
while cleansing.  
Lifebuoy's anti-  
septic properties  
safeguard your  
health; ordinary  
soaps do not.



Buy a cake of Lifebuoy Soap, use it all up, and if not entirely  
satisfactory, money will be promptly refunded by dealer.

# BUFFALO LITHIA WATER

Its Reputation does not Depend upon "Talking Points."

It is Offered to the Public upon its Record of Results Accomplished. Nothing save an Actual Test can be More Satisfactory to the Patient than the Testimony of Eminent Medical Men who have Repeatedly Tested its Merits in Bright's Disease, Albuminuria Renal Calculi, Gout, Rheumatism, and all Uric Acid Troubles.

**Cyrus Edson, A. M., M. D.,** *Health Commissioner of New York City and State, President Board of Pharmacy, New York City; Examining Physician Corporation Council, New York City, etc.,* says: "I have prescribed **BUFFALO LITHIA WATER** with great benefit in Bright's Disease."

**Dr. William H. Drummond,** *Professor of Medical Jurisprudence, Bishop's University, Montreal, Canada:* "In the Acute and Chronic Nephritis (Bright's Disease of the Kidneys) of Gouty and Rheumatic Origin as well as in the graver Albuminuria of Pregnancy, I have found **BUFFALO LITHIA WATER** to act as a veritable antidote, and I know of no other natural agent possessing this important quality."

**T. Griswold Comstock, A. M., M. D.,** *of St. Louis, Mo.,* says: "I have often prescribed **BUFFALO LITHIA WATER** in Gouty and Rheumatic conditions and in Renal Calculi, accompanied with Renal Colic, and always with the most satisfactory results. In Renal Calculi, where there is an excess of Uric Acid, it is especially efficacious."

**Dr. Jos. Holt,** *of New Orleans, Ex-President of the State Board of Health of Louisiana,* says: "I have prescribed **BUFFALO LITHIA WATER** in affections of the kidneys and urinary passages, particularly in Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra. The results satisfy me of its extraordinary value in a large class of cases usually most difficult to treat."

Voluntaneous medical testimony of the highest order, which admits of no question or imputation, mailed to any address.

**BUFFALO LITHIA WATER** is for sale by druggists and grocers generally.

**PROPRIETOR BUFFALO LITHIA SPRINGS, VIRGINIA.**

# Finest in the World BAKER'S COCOA



—  
LOOK  
AT  
THE  
LABEL  
—

TAKE  
NO  
OTHER  
—

CHOICE RECIPES, 80 PAGES, SENT FREE

**WALTER BAKER & CO. Ltd.**

ESTABLISHED 1780. DORCHESTER, MASS.

40 Highest Awards in Europe and America

# WEBER PIANOS

THE WEBER TONE  
IS THE IDEAL  
PIANO TONE



*The*

**WEBER PIANO COMPANY.**

108 Fifth Ave., New York.

266 Wabash Ave., Chicago.

Catalogue mailed free upon request.



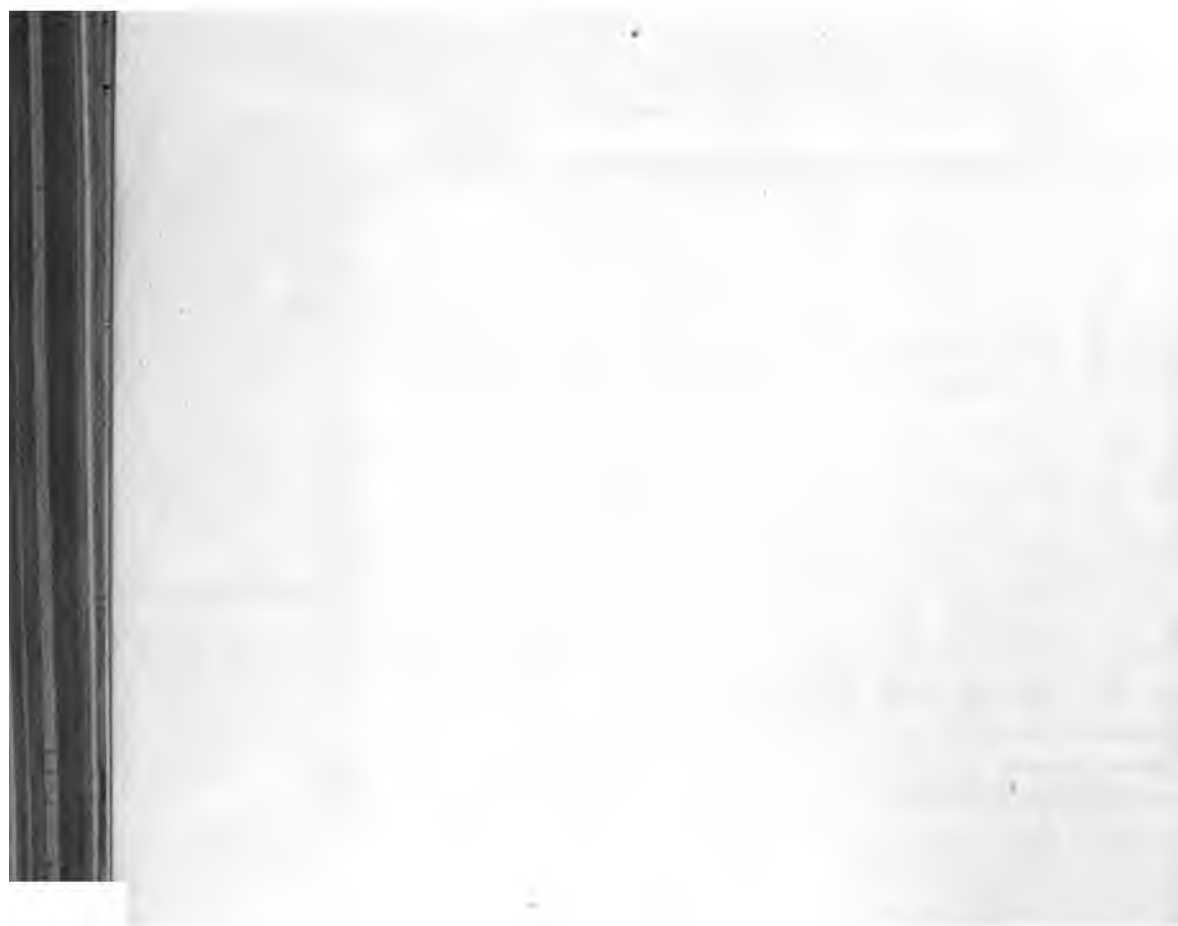
**OPENING THE SUMMER HOME** is a dirty job, but you can accomplish it without marring your hands if you carry **HAND SAPOLIO** with you. It is the dainty woman's friend, and will keep her fingers soft and white under all conditions. A safeguard in the Manicure's absence. A gentle means to a desirable end.

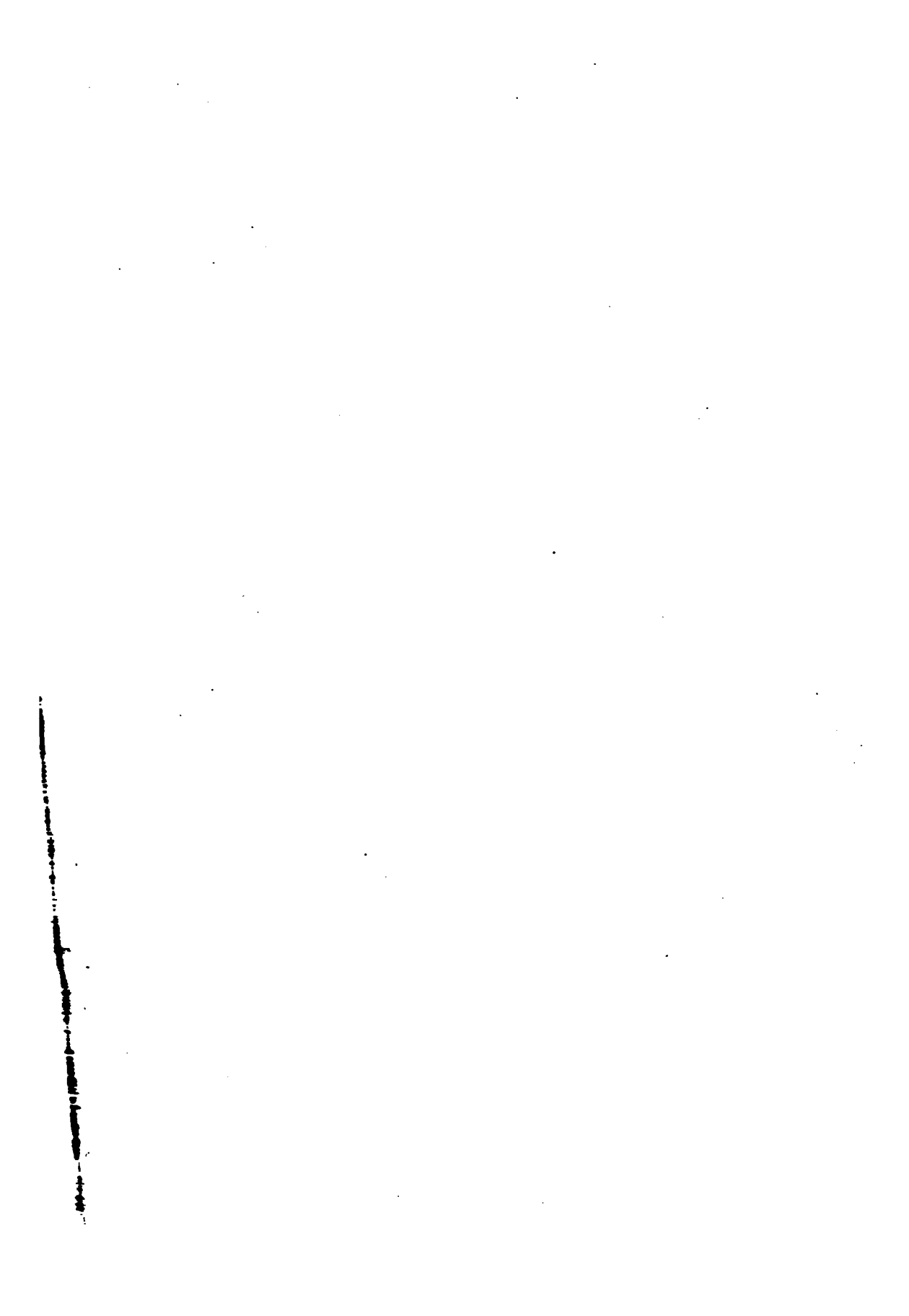
# PIANOS

have been established over 80 YEARS. By our system of payments every family in moderate circumstances can have a YOSE piano. We take old instruments in exchange and deliver the new piano in your home free of cost.

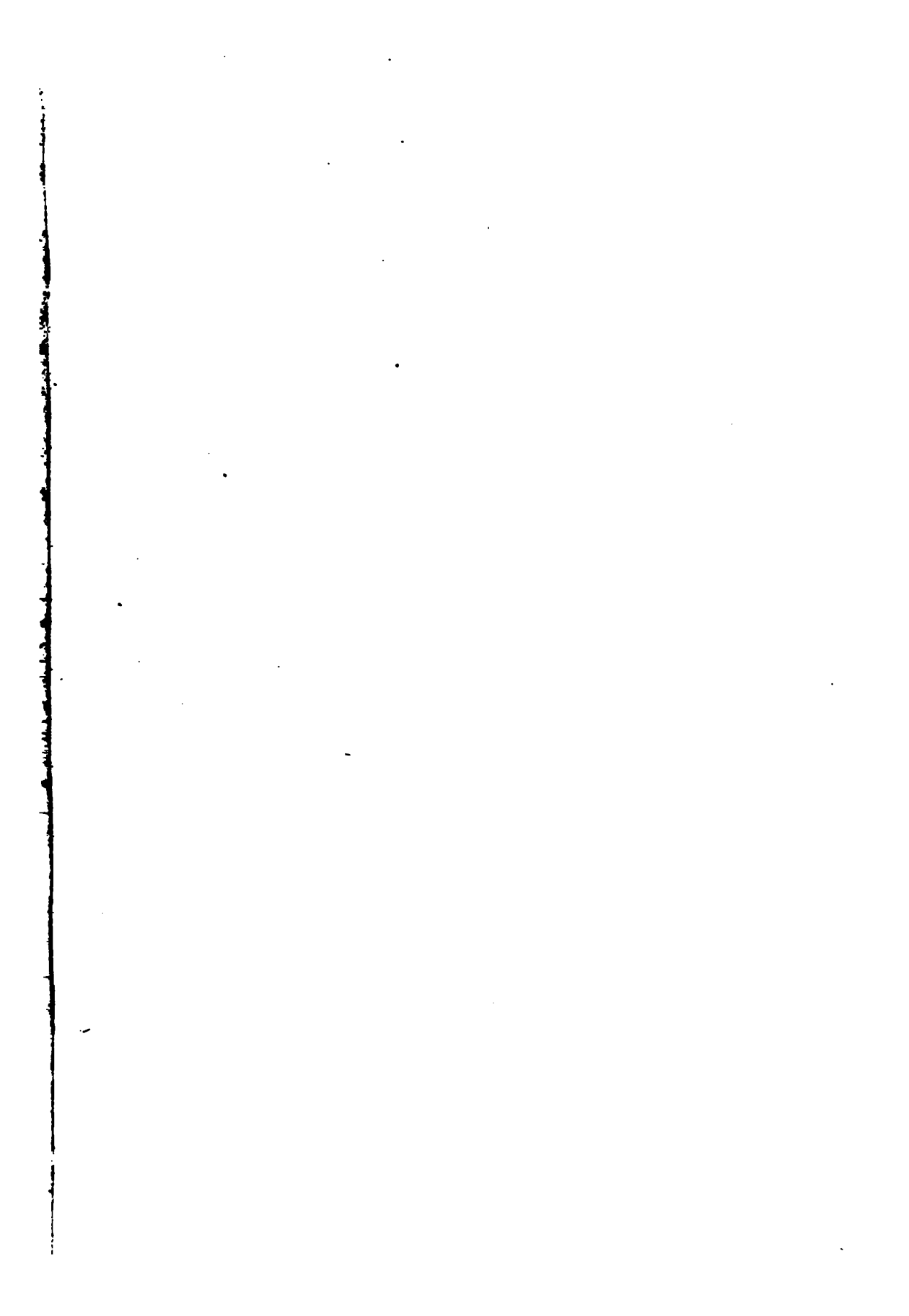


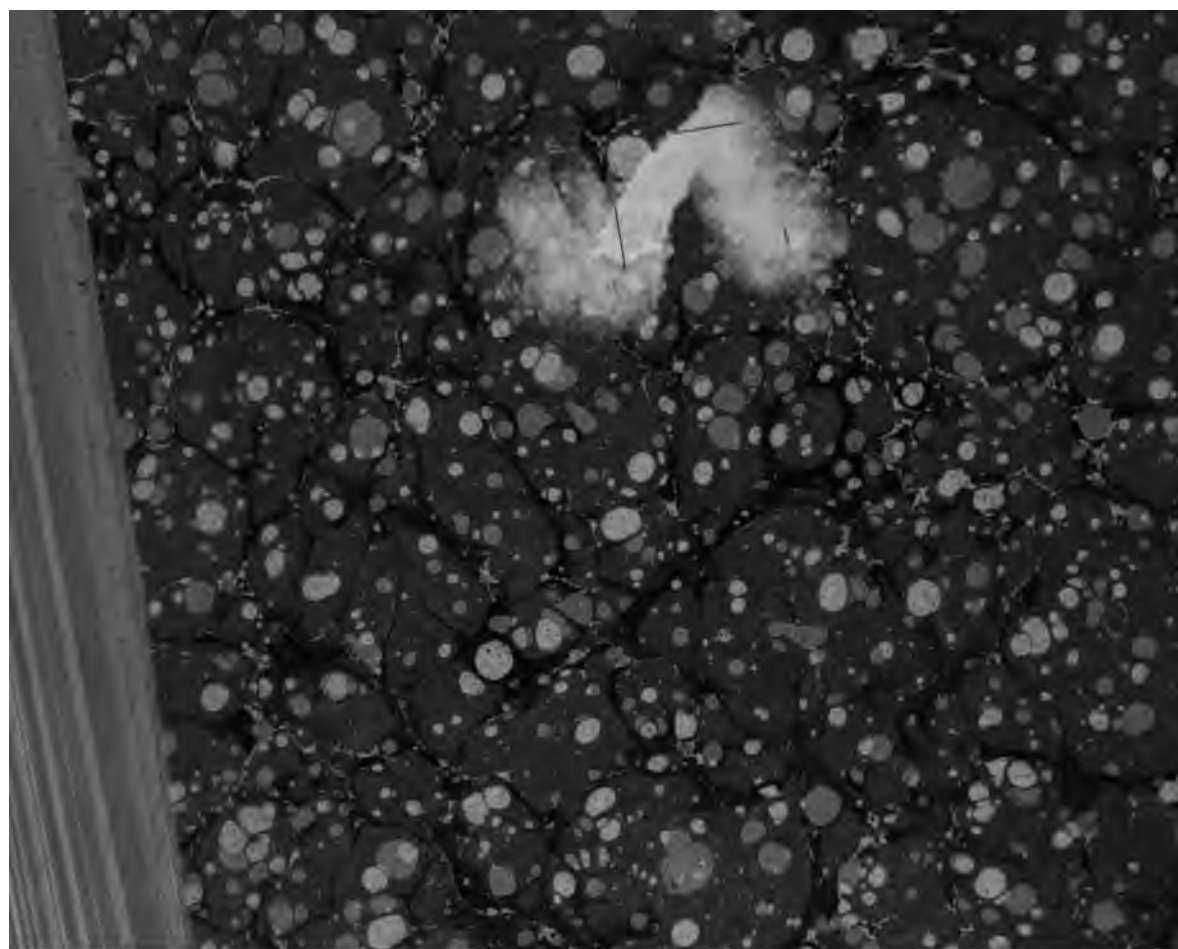












370.  
E3  
v. 3

LIBRARY LIBRARY

77940

THIS BOOK  
DOES NOT CIRCULATE

